U.S. FOOD AND DRUG ADMINISTRATION
MUIRKIRK ROAD CAMPUS MASTER PLAN

Final Environmental Impact Statement

Appendix F – Transportation Management Plan

March 2023

Prepared by:

GSA

In cooperation with:

FDA U.S. FOOD & DRUG ADMINISTRATION

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Transportation Management Plan for U.S. Food and Drug Administration Muirkirk Road Campus

General Services Administration

Stantec

February 2023

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Acronyms

AADT	Average Annual Daily Traffic
AAWDT	Average Annual Weekday Traffic
AR	Annual Attainment Report on Transportation System Performance
BPMP	Bicycle and Pedestrian Master Plan
COMAR	Code of Maryland Regulation
CTP	Consolidated Transportation Program
ETC	Employee Transportation Coordinator
FDA	U.S. Food and Drug Administration
GIS	Geographic Information System
GSA	U.S. General Services Administration
HOT	High Occupancy Toll Lanes
ITE	Institute of Transportation Engineers
LOS	Level of Service
MARC	Maryland Area Regional Commuter
MDOT	Maryland Department of Transportation
M-NCPPC	Maryland-National Capital Park and Planning Commission
MPO	Metropolitan Planning Organization
MPoT	Master Plan of Transportation
MRC	Muirkirk Road Campus
MTA	Maryland Transit Administration
MWCOG	Metropolitan Washington Council of Governments
NTS	Not to Scale
NCPC	National Capital Planning Commission
NCR	National Capital Region
NOAA	National Oceanic and Atmospheric Administration
NPS	National Park Service
MTP	Maryland Transportation Plan
SHA	State Highway Administration
RTA	Regional Transportation Agency of Central Maryland
SOV	Single-Occupancy Vehicle
SRT	State Report on Transportation
TDM	Transportation Demand Management
TERMs	Transportation Emission Reduction Measures

TIP	Transportation Improvement Program
TIS	Traffic Impact Study
TMP	Transportation Management Plan
TNC	Transportation Network Company
TOD	Transit Oriented Development
TPB	Transportation Planning Board for the National Capital Region
TSOP	Transit Services Operating Plan
V/C	Volume-to-Capacity Ratio
WMATA	Washington Metropolitan Area Transit Authority

Glossary

Autonomous Vehicles	A vehicle that is capable of operating on public roadways and in mixed traffic without the aid of a human driver.
Bikeshare	A service in which bicycles are made available for shared use to individuals on a short-term basis.
Bus Rapid Transit	A high-quality bus-based transit system that delivers efficient service that may include dedicated lanes, busways, traffic signal priority, off-board fare collection, elevated platforms and enhanced stations.
Carpool/Vanpool	An arrangement among a group of commuters that live and work within the same area to commute together in one vehicle, rather than driving individually.
Connected Vehicles	Vehicles that have the capability of communicating with other vehicles and infrastructure to improve operation and safety.
Employee Transportation Coordinator (ETC)	An employee or contractor whose responsibility is to administer and manage a TDM program.
Flexible/Alternative Work Schedule	An alternative work schedule that allows employees to work additional hours for a portion of a work week to take an additional day off. For example, four 10-hour workdays, rather than five 8-hour workdays.
Guaranteed Ride Home	The Guaranteed Ride Home (GRH) program provides commuters who regularly (twice a week) carpool, vanpool, bike, walk or take transit to work with a free and reliable ride home when unexpected emergencies arise. The existing GRH program sponsored by Metropolitan Washington Council of Governments provides up to four annual free rides home to registered commuters for unexpected personal emergencies or unscheduled overtime.
Last Mile Connectivity	Mobility solutions to connect transportation hub with user's final destination.
Rideshare	Transportation in a private vehicle driven by its owner, for free or for a fee, especially as arranged by means of a website or app.
Telecommuting	A program that allows an employee to work from home or at an off-site location at least one day per week.
Transit/Vanpool Subsidies	A financial incentive designed to encourage commuters to use public transit (or vanpools) by providing them with a monthly payment to cover a portion of their commuting expenses.
Transportation Demand Management	Strategies and policies that encourage employees to commute via other modes than driving alone, such as transit, carpool/vanpool, or walking and biking.
Transportation Network Company	A company, such as Uber and Lyft, providing rideshare services.
Transportation Management Plan	A guide to the implementation of transportation demand management strategies/policies that is specific to an employer.

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EXECUTIVE SUMMARY

The U.S. General Services Administration (GSA), National Capital Region (NCR), on behalf of and in cooperation with the U.S. Food and Drug Administration (FDA), is engaging in a master planning effort for the Muirkirk Road Campus (MRC) to consolidate additional FDA employees to the MRC. The main entrance to the MRC is at 8301 Muirkirk Road. The campus lies two miles east of the terminus of Maryland Route 200, 1.5 miles northwest of the Powder Mill Road/Baltimore-Washington Parkway interchange, and 11 driving miles from FDA's headquarters campus at the Federal Research Center (FRC). FDA owns 249 acres of land at Muirkirk Road, of which 197 acres is the West Parcel and is bounded to the north by Muirkirk Road and residential properties; to the east by Odell Road and the MRC East Parcel; to the south by Odell Road, the Beltsville Information Management Center, and the Special Collection Service; and to the west by Ellington Drive. There are currently 300 employees located at the MRC West Parcel. The Master Plan will include additional office, laboratory, and shared use spaces to support a total population of 1,800 by 2040.

This TMP reflects Master Plan action alternative B, the preferred alternative. This action alternative consists of three phases of development on the MRC West Campus. Phase 1 will consist of the relocation of some on-campus employees from an existing aging building to other buildings on the campus and a new building located south of the existing MOD 2. It is anticipated that Phase 1 will be completed by 2025. Phase 2 represents the first phase of growth on the campus and is anticipated to occur around 2030 with the consolidation of 168 additional employees, bringing the total site population to approximately 468. The timing of the additional 1,332 employees (total site population of 1,800) is not known at this time but is assumed to be a gradual increase within a 20-to-30-year time frame with a horizon year of 2040 chosen as a benchmark for the analysis (Phase 3).

The proposed action will result in an increase in vehicle trips to and from the MRC, particularly during the AM and PM peak commuter periods in Phases 2 and 3. Furthermore, National Capital Planning Commission (NCPC) parking requirements limit the amount of parking that can be provided on the Campus to one parking space for every two employees, resulting in a maximum single-occupancy vehicle (SOV) mode share of 50 percent. Therefore, a transportation management plan (TMP) is necessary to provide employees with a variety of commute modes so that the number of SOV trips can be minimized to reach the 50 percent goal.

In order to understand existing and potential future commute patterns, an employee survey was conducted via the internet (SurveyMonkey) for a three-week period from November 16, 2020 to December 4, 2020. The survey was distributed via email to the 174 full-time FDA employees (excluding contractors) currently employed at the MRC West Campus to investigate the current modes by which employees travel to work, working hours, telecommuting, origin/destination, possible improvements to transit options, reasons for mode choice, and long-term impacts of the COVID-19 pandemic on work habits. One hundred fifteen employees, or approximately 66

percent of those surveyed, responded. A survey of potential employees that would be consolidated to the MRC West Campus was not possible because these employee populations were not known. However, this report utilizes home zip code and mode share information for off-campus employees obtained from a survey conducted in 2017 for FDA Headquarters White Oak Campus. This survey included some of the off-campus building locations occupied by FDA employees that could be consolidated to the MRC West Campus.

Purpose

The purpose of this report is to assess existing and projected future commuting patterns of the MRC West Campus employees and develop a TMP that:

- Reduces SOV trips;
- Promotes the use of alternative transportation modes, such as transit, carpooling, and vanpooling; and,
- Increases vehicle occupancy.

Goals

Based on the results of the MRC West Campus employee survey, 97 percent of employees currently drive alone to work, and of those that drive alone, only 17 percent would be willing to consider alternative travel modes if more transit options were available. Furthermore, based on the 2017 FDA off-campus employee survey, approximately 86 percent of employees drive to the various off-campus office locations, with only 32 percent saying that they would be willing to consider an alternative travel mode. This reliance on personal vehicles, in combination with the exurban location of the MRC West Campus, presents a significant challenge to achieving the 50 percent SOV goal that is required as part of the parking maximum.

However, the Department of Health and Human Services has provided guidance to its agencies (including the FDA) to continue to allow employees to work from home post-COVID and established guidance for the minimum number of days employees should be in the office. Therefore, it is likely that teleworking will continue to be a significant trip reduction measure. While 61% of existing MRC West Campus employees do not telework on a regular basis because they need access to laboratories, equipment, and animals on the campus, it is therefore likely that teleworking policies may not initially have a significant trip reduction effect on MRC-generated vehicle trips. However, as employees from other office locations are consolidated to the MRC West Campus, the potential for teleworking may be greater.

In addition to encouraging teleworking through the new post-COVID policy, the Master Plan reflects parking in each phase that will be in accordance with the NCPC required ratio of one space per two employees. Therefore, while teleworking will likely be an asset and challenge to transportation demand management at the MRC West Campus, other strategies need to be considered to achieve the 50% SOV mode share reduction. However, it should also be recognized that a high telework mode share will also make other strategies, such as carpool/vanpool and enhanced transit connections, more challenging because work schedules

will be more varied, and the average on-site population could be too low to support higher-cost strategies.

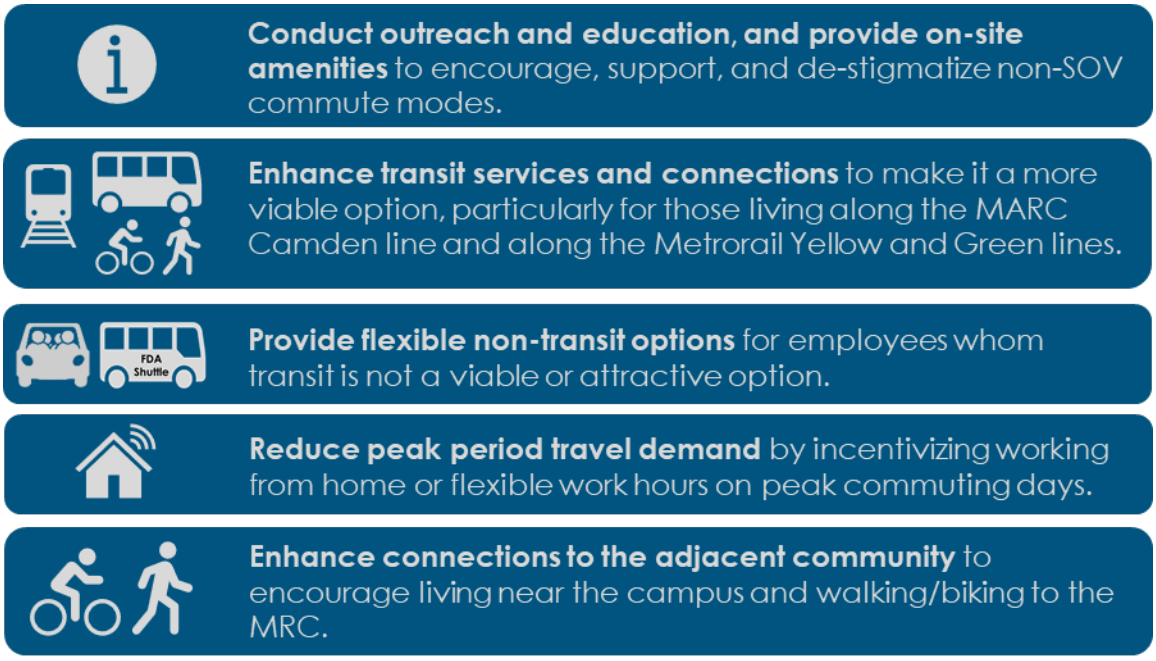
Thus, in addition to supporting teleworking, this TMP outlines a strategy to increase the number and quality of options for travel to and from the campus by leveraging the combined resources of other nearby campuses and enhancing connections to the community, as well as encourages working from home on peak commuting days (Tuesday through Thursday). As such, the overall goal of the TMP is to increase non-SOV mode share to at least 50 percent by 2030.

Transportation Demand Management

People choose their mode of travel based on several factors, including convenience, cost, time, habit/familiarity, reliability, punctuality, frequency, cleanliness, and safety. An effective Transportation Demand Management (TDM) program provides a variety of strategies that affect one or more of these factors. The approach to TDM at the MRC West Campus will have to be tailored to the unique needs of the site. The exurban location of the MRC West Campus, as well as the lack of transit options, will make it a significant challenge to encourage a reduction in the number of employees driving alone.

Furthermore, COVID-19 has had a significant impact on travel and will likely continue to have an impact on commuting within the near future. While the survey indicates that most existing MRC West Campus employees anticipate coming back to the campus once the pandemic subsides to access the laboratories and other resources on campus to perform their work, recent policy guidance may allow other employees that are to be consolidated at the MRC West Campus to work remotely more often. However, the duration of the impacts to commuting will continue to be dependent on the perceived risk of the virus, and a personal and organizational re-evaluation of the comfort, convenience, and desirability of telecommuting, as well as transit and carpooling/vanpooling. These impacts will put added challenges on the MRC West Campus. Therefore, the TMP considers ways to heavily incentivize desired behaviors through enhanced facilities on and off the campus, as well as policies that recognize and reward those that are choosing other commute modes for those employees that will be working on-campus on any given day.

As noted earlier in this report, a variety of strategies will be needed to achieve the SOV reduction goals identified in this report (50 percent non-SOV by 2030). As such, the overall approach to TDM on the MRC West Campus will be multi-fold and follow the general principles below:



Strategies and Implementation

After careful consideration of site-specific needs, a series of TDM strategies and recommended implementation timelines were developed to reduce SOV trips at the MRC West Campus (see Section 5.0 for specific recommendations for each type of strategy and Section 6.0 for implementation guidance). While the first phase of growth at the MRC West Campus is approximately five years out, many of the proposed strategies recommended in this TMP will require design considerations, planning, coordination with employees, and acquisition of funding, while others could be implemented relatively efficiently with the existing employees and expanded to consolidated/new employees. The below implementation strategy provides a roadmap for FDA to ensure that resources and facilities are available as soon as they are needed, and is divided into four phases:

- ***Phase 1 (within 5 years)***: Reduce the number of available employee parking spaces and delineate visitor parking. Create a commuter website for the TMP and assign a contact person that can coordinate with MRC West Campus employees. Review TMPs and commuting policies of other nearby agencies to identify opportunities to coordinate TDM efforts, including enhanced access to transit and shuttle connections. Begin to implement strategies that are appropriate for the onsite population and identify and secure funding for recommendations. Ensure that the design of onsite facilities, such as the transit center, incorporate specifications for transit vehicles, TNC's, etc.

- ***After Phase 2 Consolidation (within 5 – 10 years)***: Continue planning, funding, and design process for larger-scale recommendations. Incorporate consolidated/new employees into the strategies as they move into new on-campus facilities. This phase of the TMP

implementation is predicated on the timeline of construction Phase 2 of the Master Plan. If the completion of Phase 2 is delayed, the start of this implementation phase would also be delayed. Furthermore, the ability to achieve the 1:2 parking ratio is predicated on the staff that is consolidated to the campus in this phase. A higher proportion of laboratory staff, which typically work on campus more often due to the need to access lab equipment, will make it harder to achieve this goal.

- ***Phase 3 Full Site Population (within 10 – 20 years):*** All recommended TDM strategies should be implemented and available to all employees, support staff, and contractors. Evaluate the need for additional measures that may be needed to maintain or exceed the 50% SOV requirement given the anticipated significant increase in population in this phase. This phase of the TMP implementation is predicated on the timeline of construction for the full build-out of the master plan. Furthermore, the ability to achieve a 1:2 parking ratio is predicated on the availability of high-quality transit within proximity of the MRC West Campus.

- ***Maintenance Phase (beyond 20 years*)**: Continue to monitor TMP needs. Track new technology and incorporate new strategies as needed.

As noted earlier, the MRC West Campus currently has a relatively low population with an SOV mode share of 97%. Although the NCPC parking maximum requirement of one space per two employees would require an SOV mode share of 50%, it may not be possible to meet these goals immediately upon initiation of the TMP, outside of a structured teleworking policy and physical parking supply reductions. Many of the recommended strategies would require a larger employee population to support. Table E-1 shows the implementation stages and how each category of recommendation would help to get the MRC West Campus to the ultimate 50% SOV mode share goal.

The implementation matrices that follow Table E-1 list the implementation steps for each strategy by phase. The percentages listed with each strategy should be considered as mode share goals to expand beyond what is currently being done to meet the ultimate 50% SOV requirement. Strategies without a percentage goal are considered supportive to other TDM strategies, and thus do not have a separate mode share goal. However, FDA has the flexibility achieve the overall goal utilizing any combination of strategies.

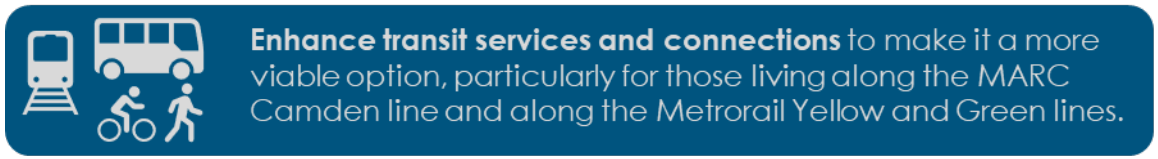
Furthermore, a higher percentage of employees teleworking would likely work against the viability of other programs such as carpooling/vanpooling and transit. More variability and less frequency in commute trips to the MRC West Campus on any given weekday may make it harder to justify more costly transit, pedestrian and bicycle connections discussed in this report. Commuting trends and policies should continue to be monitored to adjust strategies according to employee needs.

Table E-1: Phasing Strategy

Phase	Timeframe	Mode Share by Phase (Parking Ratio)	
Phase 1	**Within 5 Years**	**Starting SOV Mode Share (Parking Ratio):**	**97% (1:0.94)**
		Reduce the number of available employee parking spaces	0%
		Delineate 35 visitor parking spaces	0%
		Provide commute website and contact person for MRC West Campus staff	0%
		Review TMPs of other nearby agencies to identify opportunities to coordinate	0%
		Telework/Flex Days:	25%
		Resulting SOV Mode Share (Parking Ratio):	**75% (1:1.33)**
Phase 2 (2030) **168 Additional Employees**	**5 – 10 Years** (subject to change based on construction timeline)	**Starting SOV Mode Share:**	**75% (1:1.33)**
		Carpool/Vanpool:	1%
		Accommodate Flexible Mobility:	1%
		Telework/Flex Days:	44%
		Parking Policies:	2%
		Ped/Bike:	1%
		Local Transit:	1%
		Resulting SOV Mode Share:	**50% (1:2)**
Phase 3 (2040) **Full Site Population**	**10 – 20 Years** (subject to change based on construction timeline and availability of high-quality transit)	**Starting SOV Mode Share:**	**50% (1:2)**
		Connection to Muirkirk Station:	2%
		Connection to Metrorail:	2%
		New/Improved Transit:	1%
		Carpool/Vanpool:	3%
		Connect to White Oak Campus:	1%
		Accommodate Flexible Mobility:	1%
		Telework/Flex Days:	35%
		Parking Policies:	1%
		Ped/Bike Connections:	2%
		Local Transit:	2%
		Resulting SOV Mode Share:	**≤50% (≤1:2)**
Maintenance Phase	**>20 Years**	**Target Mode Share:**	**<50% (<1:2)**

Conduct outreach and education, and provide on-site amenities to encourage, support, and de-stigmatize non-SOV commute modes.

Strategy	Phase 1 (within 5 Years)	Phase 2 Consolidation (within 5 – 10 Years)	Phase 3 Full Site Population (within 10 – 20 Years)	Maintenance Phase (Beyond 20 Years)
Employee Transportation Coordinator (ETC)	• Develop commute website and assign contact person to coordinate with MRC West Campus employees regarding their commutes. • Coordinate with other nearby agencies or campuses to evaluate the feasibility of combining TDM strategy efforts. • Begin development of a monitoring and evaluation program. • Compile and distribute educational information regarding available commute modes and develop package for new employees. • Begin implementing responsibilities outlined in Section 5.1.1.1.	• Continue coordination with other nearby agencies and campuses to manage TDM strategy implementation. • Provide ETC on site at the MRC West Campus. • Begin monitoring and evaluation, including the biennial reports required by NCPC	• Continue all ETC responsibilities listed in Section 5.1.1.1. • Update TMP to account for new transportation and commute technology and trends.	• Evaluate need for additional staff. • Continue to re-evaluate TDM strategies and implementation.
Commute Management Platform	• Explore the feasibility of utilizing a commute management platform like RideAmigos or Luum.	• Implement commute management platform like RideAmigos or LUUM.	• Re-evaluate commute management platform.	• Continue re-evaluation of commute management platform options.
On-Site Amenities	• Ensure that on-site amenities remain components of the site during the implementation of the Master Plan. • Begin initial planning and design for the transportation hub. • Evaluate the demand for providing fleet vehicles, carsharing, or a transportation network company (TNC) account for employees that need to travel to work during the day.	• If warranted, provide fleet vehicles, carsharing, or a TNC account for employees that need to travel for work during the day. • Construct visitor center/transportation hub.	• Consider new amenities as new transportation technology becomes available. • Develop a policy for accommodating autonomous vehicles onsite.	• Consider new amenities as new transportation technology becomes available.



Strategy	Phase 1 (within 5 Years)	Phase 2 Consolidation (within 5 – 10 Years)	Phase 3 Full Site Population (within 10 – 20 Years)	Maintenance Phase (Beyond 20 Years)
Connect to Muirkirk Station (1% – 3%)	• Assess the feasibility of providing a shuttle connection to the Muirkirk MARC station.	• Continue to assess the feasibility of providing a shuttle connection to the Muirkirk MARC station.	• Begin peak period shuttle service to and from the Muirkirk station if warranted.	• Re-evaluate need for shuttle service a new travel trends and technology become available.
Connect to Metrorail (1% - 3%)	• Assess the feasibility of providing a shuttle connection to the College Park Metrorail station, and/or Greenbelt Metrorail station. • Consider coordinating with other nearby agencies and campuses to provide this shuttle service.	• Continue to assess the feasibility of providing a shuttle connection to the College Park Metrorail station, and/or Greenbelt Metrorail station. • Consider coordinating with other nearby agencies and campuses to provide this shuttle service.	• If potential ridership demand warrants, begin peak period shuttle service to and from the College Park Metrorail station and/or Greenbelt Metrorail station.	• Re-evaluate need for shuttle service a new travel trends and technology become available.
New/ Improved Transit Services (1% - 3%)	• Coordinate with Washington Metropolitan Area Transit Authority (WMATA), Maryland Transit Administration (MTA), and Regional Transportation Agency (RTA) to identify the conditions required to provide new or improved transit service to the MRC West Campus.	• Construct visitor center/transportation hub. • Continue coordination with WMATA, MTA, and RTA to evaluate the feasibility of new or improved transit service to the MRC West Campus.	• Coordinate with WMATA, MTA, and RTA to implement new or improved transit service to the MRC West Campus.	• Continue coordination with agencies to maximize impact of new services, technologies, and commuting trends.
Additional Transit Incentives/ Programs	• Continue to assist employees in registering for a guaranteed ride home service. • Continue to assist employees with obtaining the highest allowable transit subsidies.	• In new transit connections are provided, conduct on-board informational campaigns for MRC West Campus employees. • Establish public transit user group and implement transit ambassador program.	• Continue strategies as needed.	• Continue strategies as needed.

Strategy	Phase 1 (within 5 Years)	Phase 2 Consolidation (within 5 – 10 Years)	Phase 3 Full Site Population (within 10 – 20 Years)	Maintenance Phase (Beyond 20 Years)
Carpool/ Vanpool (3% - 5%)	• Aggregate employee zip codes and identify potential carpool/vanpool corridors. • Assist employees in registering for a guaranteed ride home service.	• Begin carpool and vanpool ride matching for existing employees at the MRC West Campus, if carpooling/vanpooling returns as a viable commute mode based on teleworking trends. • Hold meetings of the carpoolers/vanpoolers and help them identify meeting spots and resolve any potential issues. • Implement a method for access to transportation during the day. • Provide electric vehicle charging stations.	• Implement carpool and vanpool corridors along I-270 and I-95/U.S. 29. • Continue to monitor carpool and vanpool program and adjust program as needed. • Evaluate need for additional electric vehicle charging stations.	• Monitor carpool and vanpool program and adjust based on transportation trends and technology.
Connect to White Oak Campus (1% - 2%)	• Begin exploring the need for and feasibility of a shuttle connection between the White Oak Campus and the MRC West Campus.	• If warranted by potential ridership, begin shuttle service between the White Oak Campus, or other FDA office locations, and the MRC West Campus.	• If warranted, begin shuttle service between the White Oak Campus, or other FDA office location, and the MRC West Campus.	• Re-evaluate need for shuttle service a new travel trends and technology become available.
Accomoda-tions for Flexible Mobility (0% - 1%)	• Work with FDA leadership to develop a policy for accommodating TNCs, carsharing or fleet vehicles, and autonomous vehicles.	• Provide electric vehicle charging stations.	• Finalize plan for accommodating autonomous vehicles onsite.	• Continue to respond to changing mobility needs and technology.

Strategy	Phase 1 (within 5 Years)	Phase 2 Consolidation (within 5 – 10 Years)	Phase 3 Full Site Population (within 10 – 20 Years)	Maintenance Phase (Beyond 20 Years)
Tele-commuting/ Flexible and Alternative Work Schedules (20% - 40%)	• Work with managers to identify jobs/employees that would be good candidates for telecommuting. • Establish a reservation system that will allow employees to see how many people are planned to be on-site on a particular day and to "reserve" a workstation and/or parking space. • Work with FDA leadership to establish a core set of hours that provides employees with the flexibility to arrive off-peak and work with managers to identify opportunities for compressed days off. • Develop an incentive plan to encourage telecommuting and utilization of their compressed day off on peak commuting days.	• Extend telecommuting and flexible work schedule policies to the consolidated employees. • Implement and enforce carpool/vanpool parking spaces.	• Extend telecommuting and flexible work schedule policies to the consolidated employees.	• Evaluate additional incentives for demand balancing of teleworking, flexible work schedule, and alternative work schedule employees, as needed.
Parking Policies (3% - 5%)	• Begin to develop revised parking policies to include designated and enforced carpool/vanpool parking spaces.	• Determine the feasibility of adjusting regulations to permit a trial run of a "three for free" program whereby parkers are offered a free transit pass for three months in return for giving up their parking. • Monitor preferential parking and provide additional parking spaces as needed. • Evaluate the need for other parking strategies discussed in Section 5.1.4.3.	• Monitor preferential parking and provide additional parking spaces as needed. • Evaluate the impact of autonomous vehicles on parking. Consider redesigning parking facilities to condense parking for autonomous vehicles and alternative uses for parking structures. • If feasible, fully implement "three for free" program whereby parkers are offered a free transit pass for three months in return for giving up their parking.	• Evaluate other parking policies, as needed to help incentivize other modes of transportation.

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Strategy	Phase 1 (within 5 Years)	Phase 2 Consolidation (within 5 – 10 Years)	Phase 3 Full Site Population (within 10 – 20 Years)	Maintenance Phase (Beyond 20 Years)
Ped/Bike Connections (1% - 2%)	• Ensure that future site improvements include enhancements for pedestrians and bicyclists, including bike storage. • Ensure that future building designs include shower and locker facilities. • Begin discussions with Prince George's County and Maryland Department of Transportation State Highway Administration (SHA) regarding the planning and design of pedestrian and bicycle facilities along Muirkirk Road. • Encourage employees to use ridesharing apps for trips during the day. • Designate a TNC vehicle pick-up/drop-off area.	• Complete internal enhancements for pedestrians and bicyclists, including installation of bike storage. • Coordinate with Prince George's County and SHA to complete the design of the recommended pedestrian and bicycle facilities on Muirkirk Road. • Work with other nearby agencies and campuses to advocate for improved pedestrian and bicycle infrastructure throughout the area. • Organize a pedestrian and bicycle commuter group.	• Coordinate with Prince George's County and SHA to complete the construction of the recommended pedestrian and bicycle facilities on Muirkirk Road. • Work with the County and SHA to construct other planned facilities in the area, including those along Odell Road. • Coordinate with Prince George's County to provide bike or scooter sharing for employees to utilize during the day and to commute to and from the Muirkirk station. Consider coordinating with a deployment of other stations throughout the area. • Begin a pedestrian and bicycle user group on campus to discuss issues with walking and biking, form walk and bike commute groups, and help FDA advocate for off-campus improvements.	• Continue to monitor pedestrian and bicycle needs.
Enhance Local Transit (0% - 1%)	• Coordinate with Washington Metropolitan Area Transit Authority (WMATA), Maryland Transit Administration (MTA), and Regional Transportation Agency (RTA) to identify the conditions required to provide new or improved transit service to the MRC West Campus.	• Work with RTA, MTA, and WMATA to determine if new or modified transit services to the MRC West Campus are feasible.	• Continue to Work with RTA, MTA, and WMATA to determine if new or modified transit services to the MRC West Campus are feasible.	• Continue to Work with RTA, MTA, and WMATA to determine if new or modified transit services to the MRC West Campus are feasible.

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Monitoring

This TMP is a flexible document that is intended to be shaped and reshaped as commuting patterns and needs change. Each of the TDM strategies must be evaluated and changed as the program grows to ensure that the needs of the employees are being met and that the overall SOV reduction goals are achieved. NCPC has determined that regular reporting is a critical component to the overall success of a TDM program, and thus requires biennial reporting for all facilities with master plans or for projects that have transportation implication, including those that seek a parking ratio deviation. The MRC West Campus is not currently in compliance with the required parking ratio.

Changes to infrastructure, transit services, and travel trends can impact the effectiveness of the proposed strategies. Thus, it is important to begin monitoring upon acceptance of the Master Plan and provide updates to the TMP as needed. During each evaluation period, the following steps must be performed:

- Determine the extent to which each program has achieved its objective.
- Determine if the site is compliant with NCPC requirements, such as parking maximums.
- Plan the degree of consistency of program implementation.
- Detail the relationship of different strategies to the effectiveness of the overall program.

In addition to the required biennial reporting process, FDA should also utilize information obtained during monitoring to understand how the TDM strategies are affecting the SOV mode share goals and identify if changes are needed.

1.0 INTRODUCTION

The U.S. General Services Administration (GSA), National Capital Region (NCR), on behalf of and in cooperation with the U.S. Food and Drug Administration (FDA), is engaging in a master planning effort for the Muirkirk Road Campus (MRC) to relocate additional FDA employees to the MRC The campus lies two miles east of the terminus of Maryland Route 200, 1.5 miles northwest of the Powder Mill Road/Baltimore-Washington Parkway interchange, and 11 driving miles from FDA's headquarters campus at the Federal Research Center (FRC). FDA owns 249 acres of land at Muirkirk Road, of which 197 acres is the West Parcel and is bounded to the north by Muirkirk Road and residential properties; to the east by Odell Road and the MRC East Parcel; to the south by Odell Road, the Beltsville Information Management Center, and the Special Collection Service; and to the west by Ellington Drive. There are currently 300 employees located at the MRC West Parcel (Figure 1). The Master Plan will include additional office, laboratory, and shared use spaces to support a total population of 1,800 by 2040.

This TMP reflects Master Plan action alternative B which is the preferred alternative. This Master Plan action alternative consists of three phases of development on the MRC West Campus. Phase 1 will consist of the relocation of some on-campus employees from an existing aging building to the MOD 2 building and a new building that would be constructed south of MOD 2. It is anticipated that Phase 1 would be completed by 2025. Phase 2 represents the first phase of growth on the campus. It is anticipated to occur around 2030 with the consolidation of 168 additional employees, bringing the total site population to approximately 468. The timing of the additional 1,332 employees (total site population of 1,800) is not known at this time but is assumed to be a gradual increase within a 20-to-30-year time frame with a horizon year of 2040 chosen as a benchmark for this analysis. (Phase 3).

The MRC West Campus is located in a low-density, exurban environment, which poses several challenges that are typical to exurban employment centers. One of the most significant challenges is the limited direct suburb-to-suburb connections that are typical of a transit system, which is typically oriented to the downtown core. The MRC West Campus is currently only served by one bus route and is not within walking distance of any higher frequency, higher capacity transit services. This results in 97 percent of employees commuting by driving alone, with approximately 1 percent using the existing transit. Finally, the campus has a relatively low population, making it difficult to justify the cost of running additional bus or shuttle services to and from the site.

Therefore, this Transportation Management Plan (TMP) has been developed to help GSA and FDA encourage employees and visitors to the MRC West Campus to commute by modes other than driving alone. Towards this, the TMP aims to:

- Inventory existing and future transportation facilities, including the local roadway network, parking, pedestrian, bicycle, and transit;
- Understand existing and future employee commuting patterns and needs;

- Identify transportation demand management (TDM) strategies that reduce single-occupant vehicle trips and promote the use of alternative transportation modes such as transit, carpooling, and vanpooling;
- Implement each TDM strategy through a work plan for each product and/or service; and
- Use specific bases of measurement to effectively monitor and evaluate achievement of goals and adjust TDM strategies as necessary.

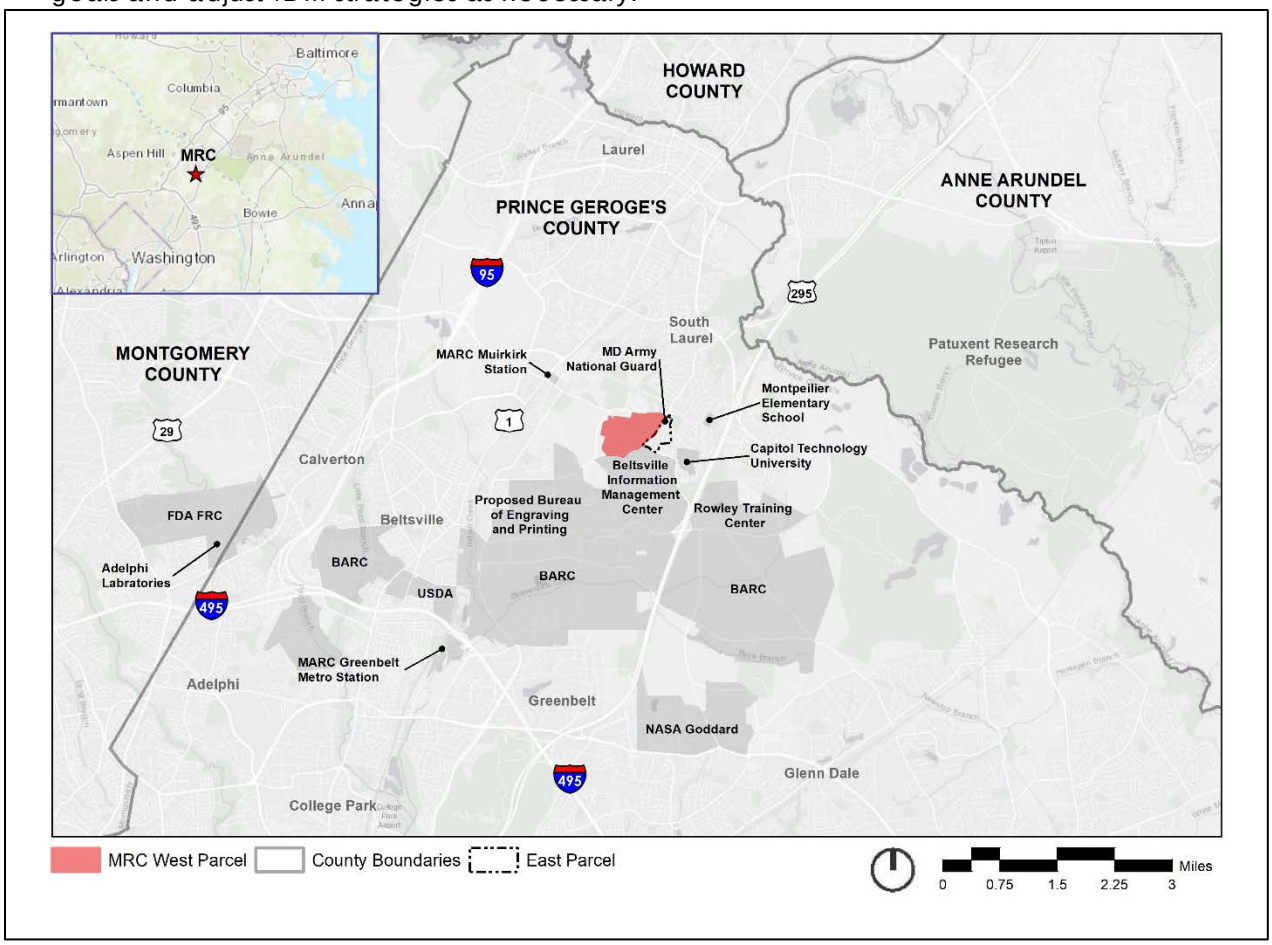


Figure 1: FDA Muirkirk Road Campus Regional Map

1.1 PURPOSE

The purpose of this report is to assess existing and projected future commuting patterns of MRC West Campus employees, researchers, volunteers, visitors, and contractors (staff), and develop a TMP that:

- Reduces the percentage of SOV trips to 50 percent by 2030;
- Promotes the use of alternative transportation modes, such as transit, carpooling, and vanpooling; and,
- Increases vehicle occupancy.

Within the last decade, regional, state, and local planning agencies within the NCR have recognized the critical need to reduce peak period traffic congestion, protect the region's environment, and reduce greenhouse gas emissions. A review of several key planning documents, described herein, reveals that each agency has formulated transportation-related goals and objectives to be achieved through several strategies that are monitored and evaluated with specific performance measures. A common strategy noted in the various key planning documents calls for transportation system improvements and utilization of TDM methods that fully support opportunities to reduce single-occupancy trips and promote alternative modes of transportation.

1.1.1 Regional

1.1.1.1 National Capital Planning Commission (NCPC)

The *Comprehensive Plan for the National Capital* guides planning and development in Washington, DC and the surrounding region. It is a unified plan with two components – the Federal and District Elements. The *Federal Elements*, prepared by NCPC, provide a policy framework for the Federal Government in managing its operations and activity in the NCR. The *District Elements* are developed by the District of Columbia and address traditional city planning issues such as land use, housing, and economic development.

The *Federal Elements of the Comprehensive Plan* is a living document that is updated periodically to ensure that policies remain current, reflect recent planning initiatives, and are consistent with federal requirements and guidance. In 2020, NCPC updated the *Transportation Element of the Comprehensive Plan for the National Capital*. The updated document proposed a few new guiding principles and consolidated, modified or removed some of the existing policies. The federal parking ratio established by the recently updated *Transportation Element* for "Suburban Areas Beyond Metrorail" is one parking space for every two employees (1:2).

The eight *Federal Elements* include Urban Design, Federal Workplace, Foreign Missions & International Organizations, Transportation, Parks & Open Space, Federal Environment, Historic Preservation, and Visitors & Commemoration. The goal within the *Transportation Element* is to "support the development and maintenance of a multimodal transportation system that meets the needs of federal workers, residents, and visitors, while improving regional mobility, transportation access, and environmental quality." There are four main sections of the *Transportation Element* that lay out policies and recommendations regarding advancing an interconnected transportation system (Section A), integrating equitable mobility options throughout the region (Section B), connecting transportation and land use (Section C), and promoting efficient and sustainable travel to federal destinations (Section D).

In particular, Section D encourages federal workplaces to utilize TDM strategies to comply with other applicable policies. For example, the completion of a TMP is required by NCPC for all master plans and any projects that result in an increase in the number of employees or visitors travelling to a workplace or other destination, a change in use, or improvements that cause

transportation and circulation impacts. The *Addendum to the Transportation Element* outlines the organization of the TMP, the procedures to complete each section, and provides guidance on effective TDM strategies, monitoring, and evaluation.

1.1.1.2 Metropolitan Washington Council of Governments (MWCOG)

In 2010, the MWCOG Board of Directors approved *Region Forward: A Comprehensive Guide for Regional Planning and Measuring Progress in the 21st Century*. MWCOG's Region Forward Vision focuses on creating a more prosperous, accessible, livable, and sustainable metropolitan Washington. It maps out ambitious goals and targets to guide future decisions and measure progress for land use, transportation, climate & energy, environment, public safety, education, housing, health & human services, and economy. These are found in Table 1.

Table 1: Goals, Targets, and Indicators for Accessibility Category

Accessibility		
Goals (pg. 15)	***Targets (pgs. 17-25)***	***Indicator (pg. 26)***
• Transit-oriented mixed-use communities emerging in Regional Activity Centers that will capture new employment and household growth. • A transportation system that maximizes community connectivity and walkability and minimizes ecological harm to the Region and world beyond. • A variety of housing types and choices in diverse, vibrant, safe, healthy, and sustainable neighborhoods, affordable to persons at all income levels. • A broad range of public and private transportation choices for our Region which maximizes accessibility and affordability to everyone and minimizes reliance upon single occupancy use of the automobile.	• Beginning in 2012, capture 75 percent of the square footage of new commercial construction and 50 percent of new households in Regional Activity Centers • Reduce daily vehicle miles traveled (VMT) per capita • The region's transportation system will give priority to management, performance, maintenance, and safety of all transportation modes and facilities • Transportation investments will link regional Activity Centers • Increase the rate of construction of bike and pedestrian facilities from the Transportation Planning Board's plan • By 2020, the housing and transportation costs in Regional Activity Centers will not exceed 45 percent of area median income • Beginning in 2012, at least 80 percent of new or preserved affordable units will be located in Regional Activity Centers • Increase the share of walk, bike, and transit trips • All Regional Activity Centers will have transit accessibility (bus or rail)	• Triennial Aerial Survey of Freeway Congestion • Vehicle Registration per capita • Transit, bicycle and walk share in Regional Activity Centers • Accessibility to jobs within 45 minutes • Street/node ratio for Regional Activity Centers • Accessibility of passengers and cargo to the region's airports • Square feet of mixed-use development

1.1.1.3 Transportation Planning Board (TPB)

The TPB is the metropolitan planning organization (MPO) for metropolitan Washington. In October 2018, the TPB approved the region's new long-range transportation plan, *Visualize 2045*, and on March 18, 2020 it approved the *FY 2021-2024 Transportation Improvement Program* (TIP).

Visualize 2045 takes a multi-modal approach, relying on multiple travel modes to accommodate anticipated growth and address the region's diverse transportation challenges. In addition to projects that the region's transportation agencies expect to be able to afford between now and 2045, the plan includes aspirational initiatives that go beyond financial constraints. Though the focus of the financially constrained element is on regionally significant road and transit projects, *Visualize 2045* also highlights bicycle and pedestrian projects, freight planning, and other transportation programs aimed at reducing congestion and improving air quality. The plan also highlights how the region is incorporating new federal Performance-Based Planning and Programming (PBPP) requirements into the regional transportation planning process. Overall, the plan aims to:

- Bring jobs and housing closer together
- Expand Bus Rapid Transit regionwide
- Move more people on Metrorail
- Provide more telecommuting and other options for commuting
- Expand express highway network
- Improve walk and bike access to transit
- Complete the National Capital Trail

The TIP is a document describing the planned schedule in the next six years for distributing federal, state and local funds for state and local transportation projects in accordance with *Visualize 2045*. The TIP represents an agency's intent to construct or implement specific projects and identifies the anticipated flow of federal funds and matching state or local contributions.

TPB is dedicated to achieving these measurable objectives through supporting individual organization TDM strategies, including pricing strategies, subsidies, incentives/disincentives, and better transit options. This TMP will help FDA direct their TDM strategies at the MRC West Campus to remain consistent with TPB's Vision and achieve its goal.

1.1.2 State

The Maryland Department of Transportation (MDOT) continually takes steps to plan, invest in and evaluate the transportation system to ensure it connects customers to key destinations–enabling a growing economy. MDOT's strategic approach is presented through the *State Report on Transportation* (SRT) which is comprised of three documents: (1) a vision for the transportation system through the *Maryland Transportation Plan* (MTP); (2) the six-year budget for transportation projects, produced annually as the *Consolidated Transportation Program* (CTP); and (3) an evaluation and report of the performance of Maryland's transportation system through the

TRANSPORTATION MANAGEMENT PLAN

Introduction

Annual Attainment Report on Transportation System Performance (AR), focusing on the goals adopted in the MTP.

The Office of Planning and Capital Programming at MDOT has developed the 2040 MTP. The MTP outlines the State's overarching transportation priorities and helps create a larger context for transportation decision-making through these goals:

- Ensure a safe, secure, and resilient transportation system
- Facilitate economic opportunity and reduce congestion in Maryland through strategic system expansion
- Maintain a high standard and modernize Maryland's multimodal transportation system
- Improve the quality and efficiency of the transportation system to enhance the customer experience
- Ensure environmental protection and sensitivity
- Promote fiscal responsibility
- Provide better transportation choices and connections

The MTP contains statewide transportation strategies to meet the seven goals, including Better Transportation Choices and Connections. The objective of Better Transportation Choices and Connections is to enhance mobility and accessibility along with informing and educating customers on transportation options. Some strategies noted in the 2040 MTP towards these objectives are:

- Coordinate activities across MDOT and with regional and local agencies to incentivize changing travel behavior.
- Encourage local jurisdictions to identify desired bicycle and pedestrian facilities in comprehensive plans, and then to secure those facilities through private development and other opportunities.
- Expand commuter transportation options, including commuter bus, car/vanpooling, park-and-ride facilities, cycling, walking, and transit, as well as promoting opportunities for teleworking.
- Promote innovative public involvement strategies for projects such as use of social media and text message surveys to expand outreach and engagement.
- Strengthen employer commute incentive programs by increasing marketing and financial/and or tax-based incentives for employers, schools, and universities to encourage walking, biking, public transportation usage, carpooling, and teleworking.

In coordination with the MTP, the *Bicycle and Pedestrian Master Plan* (BPMP) establishes a 10-year vision for bicycling and walking as transportation in Maryland. The BPMP provides guidance and investment strategies to support bicycling and walking through education, enforcement, and infrastructure solutions.

Maryland Department of Transportation State Highway Administration (SHA), and Maryland Transit Administration (MTA) track performance of these strategies and goals through

transportation demand management (TDM) and Transportation Emission Reduction Measures (TERMs), including: Commuter Choice Maryland, Commuter Connections, Telework Partnership, transit marketing and subsidy programs, and statewide park-and-ride facilities. MDOT also tracks performance through transportation-related emissions by region and greenhouse gas emissions.

1.1.3 Local

Prince George's County Planning Department, part of the Maryland-National Capital Park and Planning Commission (M-NCPPC) developed the *Plan Prince George's 2035 Approved General Plan (Plan 2035)* (published in 2014). The 2035 Transportation and Mobility Goal is to provide and maintain a safe, affordable, accessible, and energy efficient multimodal transportation network that supports the county's desired land use pattern and *Plan 2035* vision. *Plan 2035* recognizes that implementation of the various planning documents will require continued and timely coordination and collaboration of local, state, and regional agencies, and the development community.

Plan 2035 designates eight Regional Transit Centers which are the focus of the county's planned growth and mixed-use development, and which have the capacity to become major economic generators. Six Neighborhood Reinvestment Areas are designated for coordinated funding and resources needed to stabilize and revitalize these areas. The *Plan 2035* transportation policies and strategies build on the *2009 Approved Countywide Master Plan of Transportation* (MPoT). The MPoT identifies appropriate transportation system elements to support the *Plan 2035* development pattern and policies and proposes implementation mechanisms for these elements. To facilitate inter-agency coordination on implementation, strategies that should be pursued within the first five years following *Plan 2035*'s approval are:

- Identify new transitway corridors that will support the *Plan 2035* development priorities and amend the *Master Plan of Transportation* Transit Element to include the updated corridors.
- Update the *Transit Services Operating Plan* (TSOP) to reflect the *Plan 2035* future land use plan and local and regional transit planning initiatives.
- Adopt a single set of multimodal LOS standards (superseding the standards for each mode) at a future time when multimodal LOS analysis procedures have been fully accepted.
- Coordinate the county complete streets policy with a school route analysis, planning, and implementation by the Prince George's County Planning Department, the Board of Education, the Department of Public Works & Transportation, SHA, and municipalities.
- Identify areas with high pedestrian accident incidents and implement appropriate traffic-calming measures to increase safety while maintaining designated levels of service.
- Develop a coordinated approach to pursuing a range of diverse transportation funding sources.

- Develop a priority parking initiative for alternative fuel and carpooling vehicles at county buildings, commuter parking lots, and other popular areas to encourage the use of alternative fuel vehicles and carpooling countywide.

One goal of this document is to guide the County in managing capacity and minimizing congestion of the street, road, and highway network by safely and efficiently providing access for all users to existing and planned land uses, with emphasis on *Plan 2035* corridors and centers. One strategy to achieve this goal is to "implement TDM practices that reduce trips (through park-and-ride lots and other strategies) and trip length, manage routes and peak-period travel, and generally focus on changing travel behavior." Transit-oriented development (TOD) represents a major opportunity to implement the development vision for Prince George's County at Metro stations.

1.2 DATA COLLECTED

The basis for this report is a site assessment, an employee survey conducted in November 2020, and traffic volume data utilized in the traffic impact study.

1.3 TMP GOALS AND OBJECTIVES

Based on the results of the MRC West Campus employee survey, 97 percent of employees currently drive alone to work, and of those that drive alone, only 17 percent would be willing to consider alternative travel modes if more transit options were available. Furthermore, based on the 2017 FDA off-campus employee survey, approximately 86 percent of employees drive to the various off-campus office locations, with only 32 percent saying that they would be willing to consider an alternative travel mode. This reliance on personal vehicles, in combination with the exurban location of the MRC West Campus, presents a significant challenge to achieving the 50 percent SOV goal that is required as part of the parking maximum.

However, the Department of Health and Human Services has provided guidance to its agencies (including the FDA) to continue to allow employees to work from home post-COVID and established guidance for the minimum number of days employees should be in the office. Therefore, it is likely that teleworking will continue to be a significant trip reduction measure. While 61% of existing MRC West Campus employees do not telework on a regular basis because they need access to laboratories, equipment, and animals on the campus, it is therefore likely that teleworking policies may not initially have a significant trip reduction effect on MRC West Campus-generated vehicle trips. However, as employees from other office locations are consolidated to the MRC West Campus, the potential for teleworking may be higher.

Teleworking will likely be an asset and challenge to transportation demand management at the MRC West Campus. A high teleworking mode share will help to overcome the significant challenge of achieving the 50% mode share goal. However, a high telework mode share will also make other strategies, such as carpool/vanpool and enhanced transit connections, more

challenging, because work schedules will be more varied and the average on-site population could be too low to support higher-cost strategies.

Thus, in addition to supporting teleworking, this TMP outlines a strategy to increase the number and quality of options for travel to and from the campus by leveraging the combined resources of other nearby campuses and enhancing connections to the community. Given the significant gap between the SOV target and the actual SOV mode share, the 50 percent target will have to be achieved gradually as the number of employees increases, and other nearby agency projects are completed, to a number that would provide sufficient site population to support higher-cost strategies and ride matching among employees. Based on this need, the following goals were identified:

- Increase non-SOV mode share to at least 50 percent by 2030, which will accommodate the first phase of growth.
- Maintain a non-SOV mode share 50 percent by 2040, assuming a full site population of 1,800 is achieved within this timeframe.

1 ***This page has been intentionally left blank.***

2.0 TRANSPORTATION SYSTEM

2.1 LOCAL ROADWAY NETWORK

The MRC West Campus is situated in an exurban area between U.S. 1 and the Baltimore-Washington Parkway. Main access is provided via a gated driveway on Muirkirk Road, with two other gates located on Odell Road. Existing site employees primarily arrive to the site via Muirkirk Road from either the Baltimore-Washington Parkway or Laurel Bowie Road (MD 197) to the east or I-95, U.S. 1, or MD 200 to the west. It is approximately five miles from the Capital Beltway (I-495).

Interstate 95 is an eight-lane north-south divided freeway with a posted speed limit of 65 miles per hour, and carries approximately 208,000 average daily vehicles (AADT) according to SHA traffic data. A full-movement, grade-separated interchange is provided at MD 200.

Virginia Manor Road/Konterra Drive is a four-lane north-south divided collector road with a posted speed limit of 40 miles per hour and carries approximately 13,600 average daily vehicles (2018 SHA data). Turn lanes are provided at major intersections and traffic signals are provided at the intersections with MD 200 on- and off-ramps as well as Muirkirk Road. Bike lanes are also provided along the roadway.

Odell Road is a two-lane undivided local road with no posted speed limit, but it is assumed to be 30 miles per hour. Odell Road has a dedicated right-turn lane at the intersection with Muirkirk Road.

Old Baltimore Pike is a four-lane minor arterial road with a speed limit of 40 miles per hour and carries approximately 16,000 average daily vehicles (2019 SHA data). A dedicated left-turn lane is provided at the intersection with Muirkirk Road.

U.S. 1 (Baltimore Avenue) is a four-lane north-south divided arterial highway with a posted speed limit of 50 miles per hour. U.S. 1 carries approximately 30,500 average daily vehicles (2019 SHA data). Turns lanes are provided at major intersections and traffic signals are provided at the intersections with MD 200 on- and off-ramps as well as Muirkirk Meadows Drive and Ritz Way (MD 212). Bike lanes are also provided along select segments of the roadway.

Baltimore-Washington Parkway (MD 295) is a four-lane north-south divided freeway with a posted speed limit of 45 miles per hour. The Parkway carries approximately 110,000 average daily vehicles (2019 SHA data). A full-movement, grade-separated interchange is provided at Laurel Bowie Road (MD 197).

MD 200 is a four-lane east-west divided freeway with a posted speed limit of 55 miles per hour. A partial diamond interchange is provided at Konterra Drive, which provides access to Muirkirk Road. According to 2019 SHA traffic data, the AADT is approximately 11,600 average daily vehicles.

Laurel Bowie Road (MD 197) is a six-lane north-south divided arterial highway with a posted speed limit of 40 mph. Access to the study area is provided via an intersection with Muirkirk Road. According to 2019 SHA traffic data, the AADT is approximately 50,000 average daily vehicles.

Muirkirk Road is an east-west undivided minor arterial with a posted speed limit of 40 miles per hour. It is a four-lane roadway from Virginia Manor Road/Konterra Drive to Longwood Drive, and then is primarily a two-lane roadway from Longwood Drive to Laurel Bowie Road. It provides access to area businesses, residential streets, the Campus, and the Muirkirk MARC station. The main access to the Campus is provided via an unsignalized driveway across from Snowden Woods Road. According to 2019 SHA traffic data, the AADT for Muirkirk Road is approximately 11,000 average daily vehicles.

2.2 PARKING FACILITIES

Parking is not regulated at the MRC West Campus. Approximately 283 spaces serve the MOD 1 and MOD 2 Buildings, which are the primary buildings on-campus that house staff and laboratory space. MODs 1 and 2 and the associated parking areas are accessed through the main gate on Muirkirk Road. A separate 37-space parking lot is provided for the Beltsville Research Facility, which is located on the east side of the campus. The locations of the buildings and parking areas and their approximate capacities are shown in Figure 2.

The current parking ratio is approximately 1 space per 0.9 employees (1:0.9), which does not meet the required NCPC parking ratio for suburban areas beyond Metrorail. However, it should be noted that there are no designated visitor parking spaces on the campus. Visitors to the campus can park in any of the main parking lots. Therefore, the actual parking ratio for employees is lower. FDA reports an average of 40 visitors per day, which would result in an effective parking ratio of 1:1.05.

It should also be noted that the Animal Research Facility and pasture areas on the south side of the campus have areas that can be used for loading or parking near the buildings. However, these areas are only accessible to the staff that is specifically assigned to these areas. Although many of the buildings have pavement around them that can be used for loading or parking, there are no striped parking spaces. Therefore, these areas are not considered as part of the overall total on-site parking count.

Figure 2: Existing MRC West Campus Parking Lot Locations (NTS)

The proposed Master Plan calls for a total of 900 employee parking spaces and 80 visitor parking spaces. The number of parking spaces will likely be phased with the development of the site as outlined in the Master Plan.

2.3 TRANSIT FACILITIES

The local transit network is shown in Figure 3, along with approximate distances from the MRC West Campus. Transit within and outside the study area is discussed in the following sections.

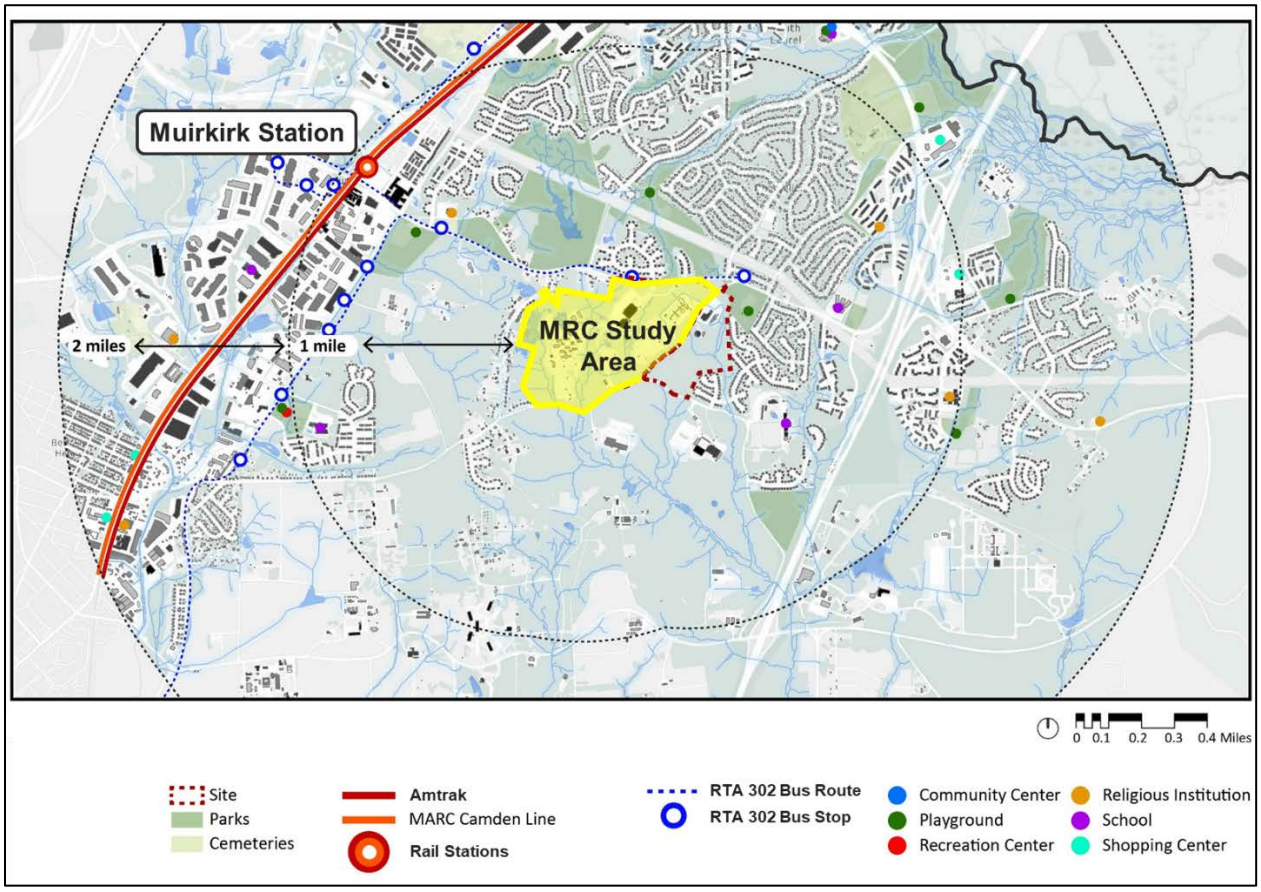


Figure 3: Local Transit Services

2.3.1 Metrorail

The Washington Metropolitan Area Transit Authority (WMATA) Metrorail system connects downtown Washington, DC to the adjoining areas in Maryland and Virginia. Six lines, including the Red, Blue, Orange, Green, Yellow, and Silver, interconnect within Washington, DC. Prior to the COVID-19 pandemic, the Metrorail system operated from 5:00 AM to 11:30 PM Monday through Thursday, from 5:00 AM to 1:00 AM on Fridays, 7:00AM to 1:00 AM on Saturdays, and 8:00 AM to 11:00 PM on Sundays. Trains arrived approximately every six minutes during the peak hours and every twelve minutes at other times. During the COVID-19 pandemic, the Metrorail system operated from 5:00 AM to 11:00 PM on weekdays, 7:00 AM to 11:00 PM on Saturdays, and 8:00 AM to 11:00 PM on Sundays. Trains arrive approximately every six minutes during the peak hours and every twelve minutes at other times.

The Campus is approximately 6.5 miles from the Greenbelt Metro station on Metrorail's Green Line. The Green Line operates between Branch Avenue and Greenbelt in Prince George's County and has 21 stations and three transfer points to other Metrorail lines (Figure 4). The line runs along the same path as the Yellow Line from L'Enfant Plaza to Fort Totten at all times, and from L'Enfant Plaza to Greenbelt only during rush hours. The line operates at an 8- to 12-minute headway during weekdays and Saturdays, a 15-minute headway on Sundays, and 20-minute late-night headways. The Greenbelt station, the closest station to the MRC West Campus, has 3,875 parking spaces, 81 bike racks, 38 lockers, and numerous bus service connections, including Regional Transportation Agency of Central Maryland (RTA) Bus 302 to Laurel which stops at the MRC West Campus driveway on Muirkirk Road. The College Park Metrorail Station, another major station nearby on the Green Line and which will also be served by the Purple Line in the future, is approximately nine miles from the MRC West Campus.

Source: WMATA, 2022

Figure 4: Metrorail System Map (Source: WMATA)

2.3.2 MARC

The Maryland Area Regional Commuter (MARC) train system connects downtown Washington, DC and Baltimore, Maryland to adjoining areas in Maryland. Three lines, including the Brunswick, Camden, and Penn, interconnect within Washington, DC.

The Muirkirk station, approximately 1.5 miles from the MRC West Campus, is located along the Camden Line, shown in orange in Figure 5, below. Camden Line service operates from 6:00 AM to 9:00 AM and from 3:30 PM to 9:00 PM on weekdays only. There is no weekend and off-peak service. Trains arrive approximately every 30 minutes. Bus service to the station is provided through RTA Route 302 which stops at the station every hour on weekdays. The Muirkirk station has approximately 650 parking spaces.

Source: MTA, 2020

Figure 5: MARC Rail System with Commuter Buses (Source: MDOT)

2.3.3 Bus

WMATA Bus Route 89M services the overall study area with connections to the South Laurel Park-and-Ride Lot and to the Greenbelt Metrorail station. The bus stop is located within the study area on Ritz Way west of Baltimore Avenue, south of Muirkirk Road. Buses arrive approximately every 30 minutes during peak times and approximately every hour during weekday off-peak times. There is no service on weekends. The nearest stop is approximately two miles from the MRC West Campus.

As shown in Figure 6, the MRC West Campus (labeled as FDA Muirkirk Campus) is served by RTA Route 302. Route 302 operates at approximately one-hour headways and provides local service that connects the Towne Centre Laurel to the Greenbelt Metro station.

Source: Transit RTA, 2021

Figure 6: RTA Route 302 Route Map (NTS)

2.4 PEDESTRIAN AND BICYCLE FACILITIES

The Campus is currently not connected to a pedestrian and bicycle network. There are no sidewalks or bike lanes present along Muirkirk Road and shoulder widths vary. Furthermore, there are limited pedestrian facilities onsite which primarily connect parking to the buildings, but do not provide connections between different areas of the campus. Furthermore, many of the limited facilities that do exist do not have features that are compliant with current ADA standards.

According to the PGAtlas website, M-NCPPC's Geographic Information Systems (GIS) tool for Prince George's County, the County has planned bicycle lanes on Muirkirk Road (Figure 7). The map also shows planned bike lanes along Odell Road and planned shared lanes on Ellington Drive.

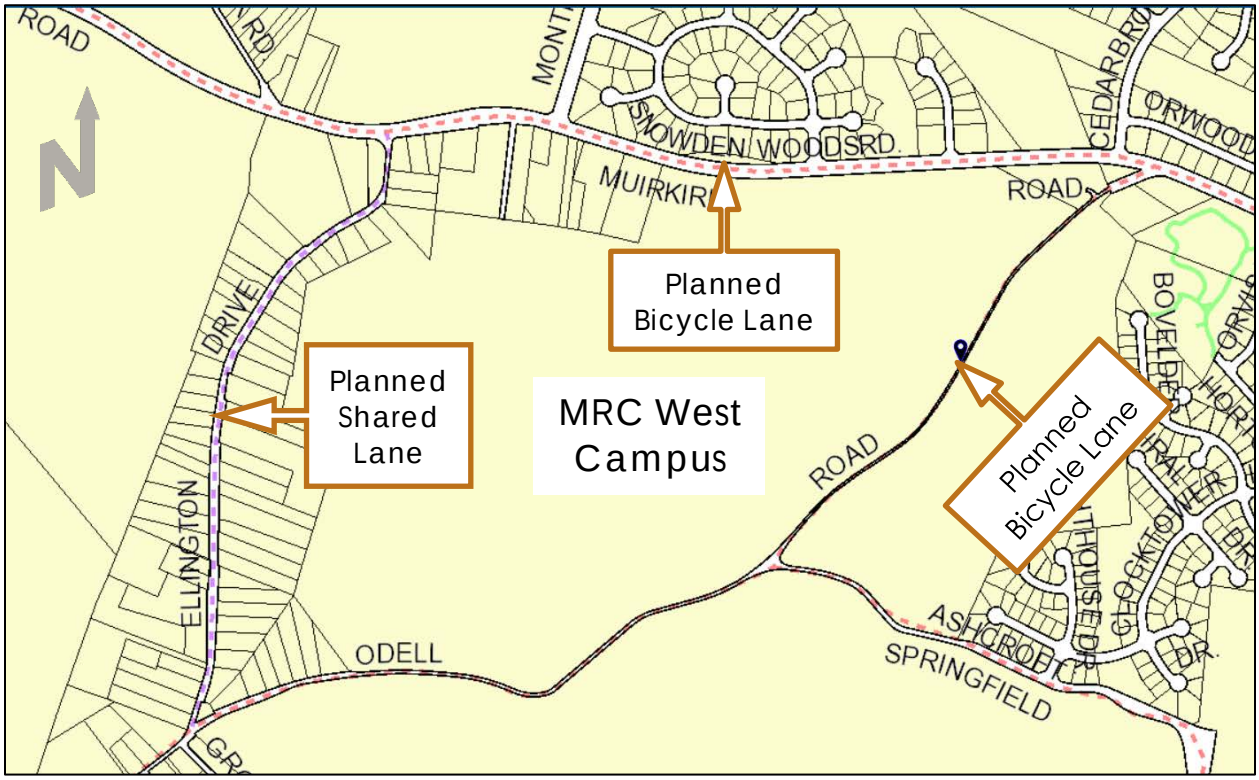


Figure 7: Planned Bicycle Facilities in Study Area (NTS)

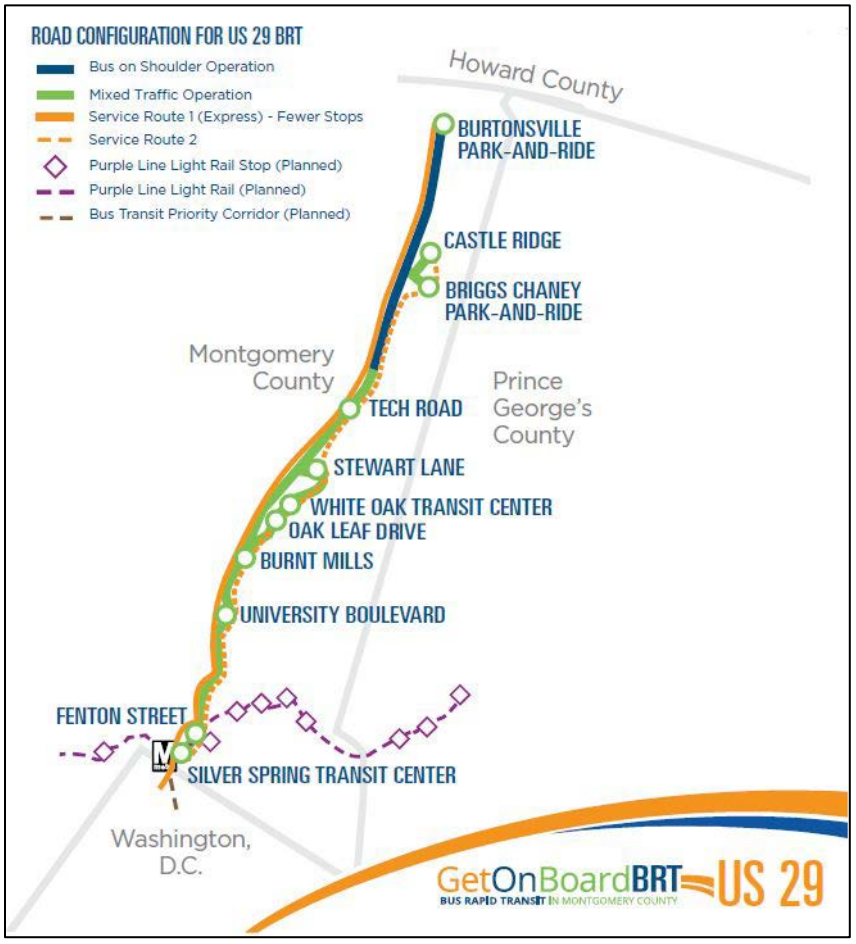
2.5 PLANNED REGIONAL TRANSPORTATION INFRASTRUCTURE AND SERVICE IMPROVEMENTS

There are several planned transportation infrastructure and service improvements that are planned for the region that will impact travel in the greater Baltimore-Washington area.

Descriptions of the improvements as well as their potential impact on commuting to/from the MRC West Campus are provided below.

2.5.1 Bus Rapid Transit (BRT)

BRT service is currently planned for several corridors, including U.S. 29, between the Silver Spring Transit Center and the Burtonsville Park-and-Ride, New Hampshire Avenue, between Colesville Park and Ride and the DC line, and Randolph Road, between the White Flint Metrorail Station and U.S. 29. Although the BRT corridors do not come close to the MRC West Campus, the New Hampshire Avenue and U.S. 29 corridors will provide access to the White Oak Campus. Therefore, it could be possible for employees working at the MRC West Campus to commute to the White Oak Campus and then connect to the MRC West Campus via a shuttle. However, given the fact that this will significantly increase travel time for most riders and result in a seat change, it is not anticipated that the proposed BRT service will have a measurable impact on commuting to and from the MRC West Campus. It should also be noted that only the U.S. 29 BRT corridor is currently planned for implementation (Figure 8).

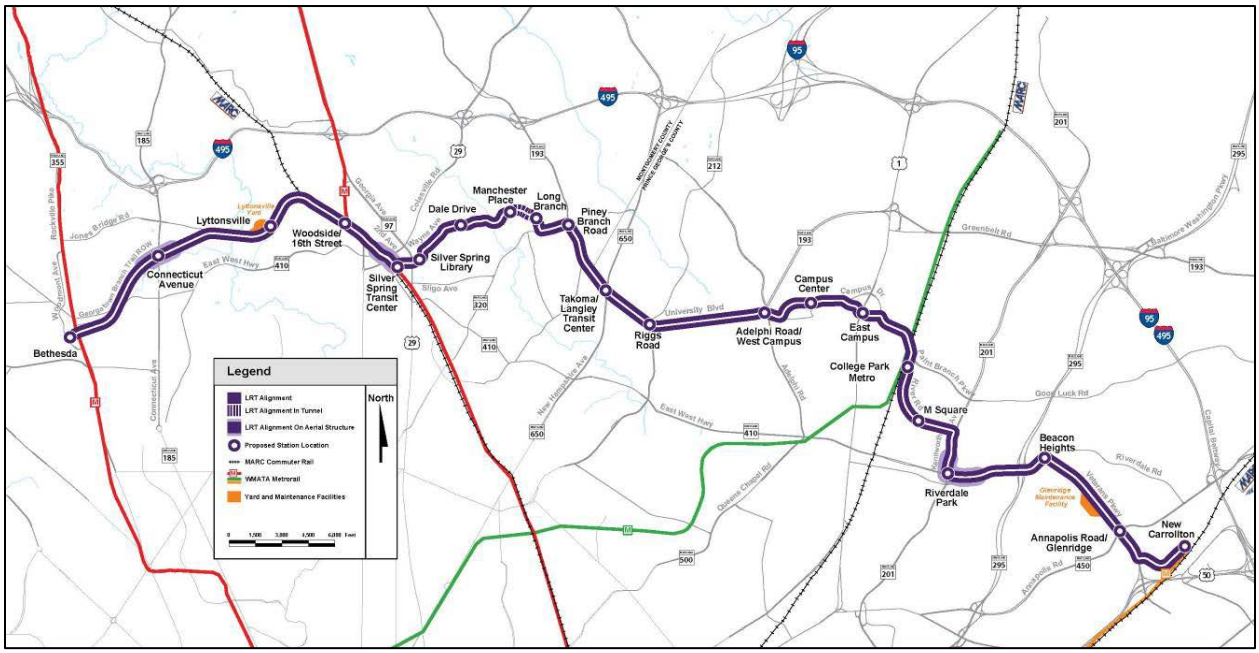


Source: Montgomery County, 2021

Figure 8: Planned U.S. 29 BRT Corridor (Source: Montgomery County)

2.5.2 Purple Line

The Purple Line is a 16-mile light rail line that will connect Bethesda in Montgomery County to New Carrollton in Prince George's County, operating along a right-of-way that lies between the Beltway and the DC city line, and providing connections to the Red, Green, and Orange Metrorail lines (see Figure 9). The Purple Line will have 21 stations and will be operational in 2022. It is anticipated that it will carry approximately 69,000 daily riders by 2030. The closest station to the MRC West Campus would be the College Park Metrorail station, which is approximately nine miles away. Commuting to the MRC West Campus utilizing the Purple Line service would only be possible if a shuttle service or other connection was made to the MRC West Campus from one of the Purple Line stations. However, given the limited service area of the Purple Line, it is likely that most employees would have two or three seat changes to access the MRC West Campus via the Purple Line. Therefore, the Purple Line is not anticipated to have a significant impact on commuting to the MRC West Campus.



Source: Purple Line MD, 2021

Figure 9: Purple Line Route Map (Source: MTA)

2.5.3 The I-495 and I-270 Managed Lanes

The preferred alternative of the I-495 and I-270 Managed Lanes project consists of the construction of high-occupancy toll (HOT) lanes on I-270 and I-495. These lanes would permit faster travel for vehicles with three or more occupants and buses (for free), as well as for drivers that wish to pay a fee to use the lanes. The fees will be dynamic and will increase or decrease based on the amount of traffic in the HOT lanes. The preferred alternative also includes improvements to transit service along the I-495 and I-270 corridors.

The potential impacts to the MRC West Campus are not known and may be hard to speculate at this time. As noted above, it may help to incentivize carpool and vanpooling, and would also reduce travel time of buses that currently utilize those roadways. However, it may also improve driving travel times for those that wish to pay the toll fee. Therefore, it may result in a net neutral impact on MRC West Campus commuting. FDA should work with MTA, WMATA, and other transit providers to determine how transit service could be improved to the MRC West Campus using the HOT lanes, given that most of the staff that could be relocated to the MRC West Campus live along the I-270 corridor.

2.5.4 Baltimore-Washington Superconducting MagLev Project

The proposed Baltimore-Washington Superconducting MagLev project would provide a high-speed connection between Baltimore and Washington that would generally follow the alignment of the Baltimore-Washington Parkway. Only one intermediate station would be provided at BWI Marshall Airport. With no station in the vicinity of the MRC West Campus, it is unlikely that it would be used for regular commuting to and from the MRC West Campus.

2.5.5 Additional Roadway Improvements

There are no other known roadway projects planned for the study area roadway network. However, it should be noted that the *Traffic Impact Study for U.S. Food and Drug Administration Muirkirk Road Campus Master Plan* (2021), prepared by Stantec Consulting Services, Inc., identified that background developments, including Konterra Town Center East, the Brickyard, and the Bureau of Engraving and Printing would have an impact on traffic within the study area. Section 4.2.5 provides a list of roadway improvements that would likely be required to accommodate the other nearby developments.

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3.0 EMPLOYEE SURVEY

An employee survey was conducted via the internet from November 16, 2020 to December 4, 2020 to evaluate the commuting patterns of existing employees that are assigned to the MRC West Campus to understand pre-COVID commuting patterns, estimate how future employees would commute to/from the campus post-COVID, and identify opportunities to enhance non-auto modes. A copy of the survey is in Appendix A.

3.1 ON-CAMPUS EMPLOYEE SURVEY RESULTS

An email containing a link to the on-line survey was distributed to the 174 full-time FDA employees on the site. Contractor employees were not surveyed. For this population, a sample size of 112 responses would make the results statistically significant; 115 or approximately 66 percent, responded. Therefore, it was determined that the survey results would be statistically significant. The survey results for each question are summarized below.

Questions 1 through 3: Employee Demographics

Questions 1 through 3 asked employees about their role at MRC West Campus, the location of their current office, and the zip code of their residence. All but two respondents indicated they are employed by FDA. These two respondents are employed by GSA. Table 2 shows that most respondents work in the MOD 1 or MOD 2 buildings, while only three percent work in the Animal Research Facility or the Beltsville Research Facility. Figure 10 shows the location of the buildings.

Figure 11 illustrates the density of employee residences within a given ZIP code, with a darker color indicating a greater density. The results show high concentrations of employees along the I-270 and I-95/U.S. 29/U.S. 1 corridors, as well as within the South Laurel area.

Table 2: On-Campus Respondent Work Location

Facility	Percentage
Beltsville Research Facility	3%
MOD 1	56%
MOD 2	37%
Animal Research Facility	3%
Multiple facilities	1%

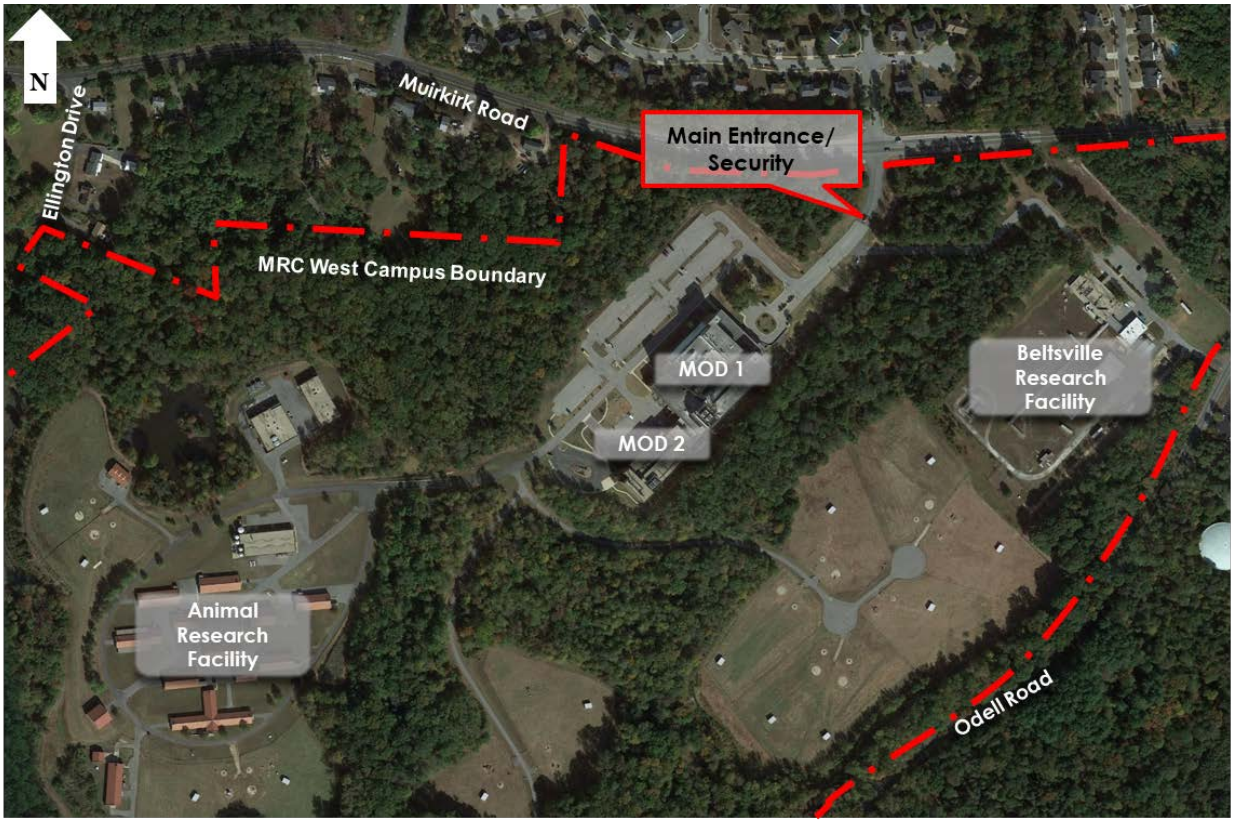

Figure 10: MRC West Campus Building Locations

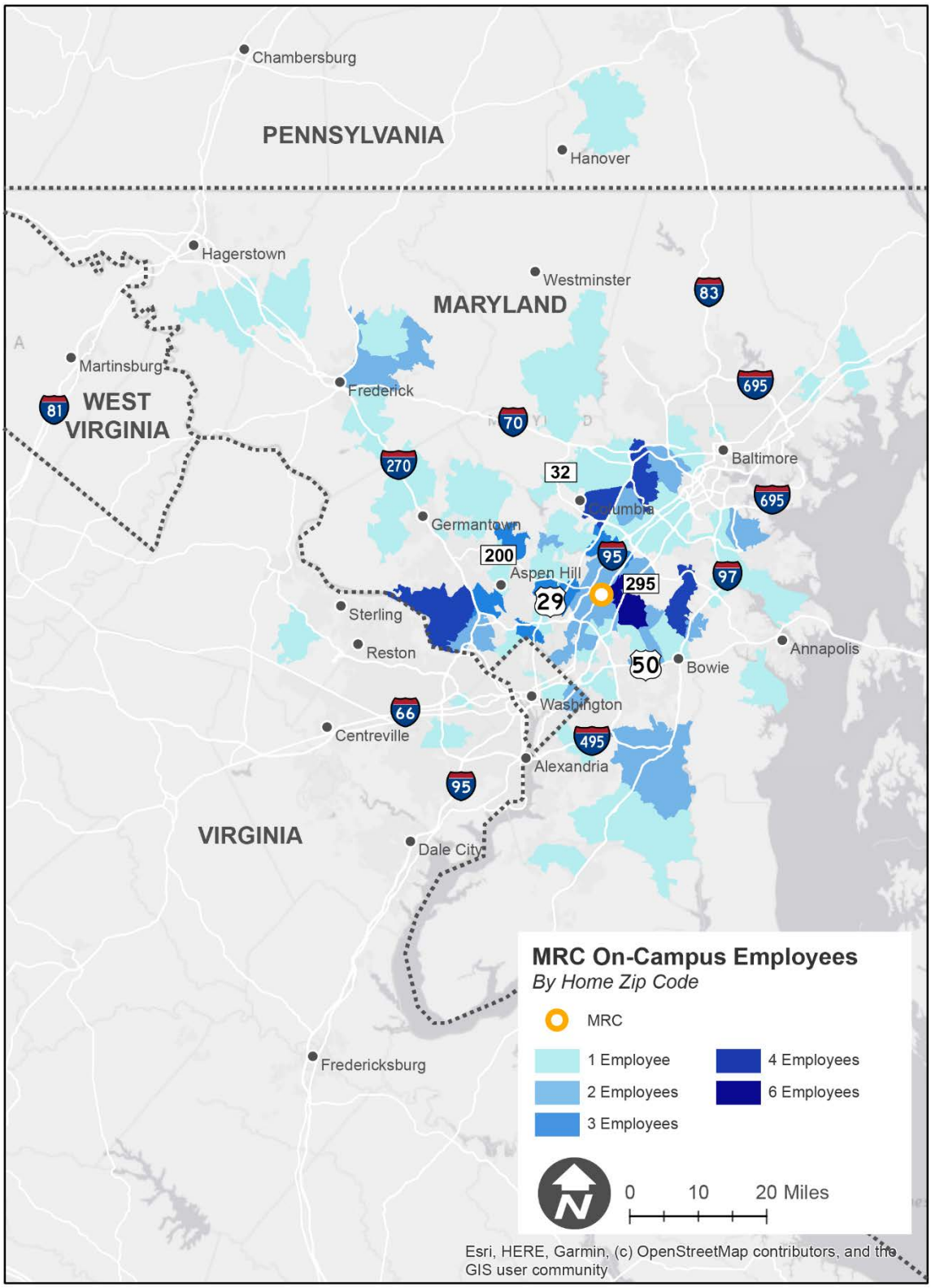

Figure 11: MRC West Campus Employee Respondent Home Location

Questions 4 through 6: Work Habits

Questions 4 through 6 asked employees about their work habits before the COVID-19 pandemic, including work schedule, days of week that they work in the office, and arrival and departure times. Most (about 88 percent) respondents work a typical 5 day/40 hours per week work schedule and most (about 81 percent) of respondents are at the MRC West Campus every workday. There are no set operating hours or shifts at the MRC West Campus. However, a majority, 68 percent, of employees arrive between 7:00 AM and 9:00 AM and 65 percent depart between 4:00 PM and 6:00 PM.

Question 7 through 9: Typical Commute Characteristics

Questions 7 through 9 asked respondents about their typical commute before the COVID-19 pandemic. According to the results of Question 7, approximately 97 percent of respondents commute via personal vehicle. Of the remaining commute modes, only three respondents indicated that they carpool/slug, take a bus, or are dropped off.

Question 8 asked respondents approximately how many miles they commute. The results of the survey show that the majority of respondents (approximately 69 percent) travel no more than 20 miles to work each day (see Figure 12). Question 9 asked these respondents approximately how long their commute is to work. A little over half (approximately 52 percent) indicated that they have a commute that is 30 minutes or less (see Figure 13).

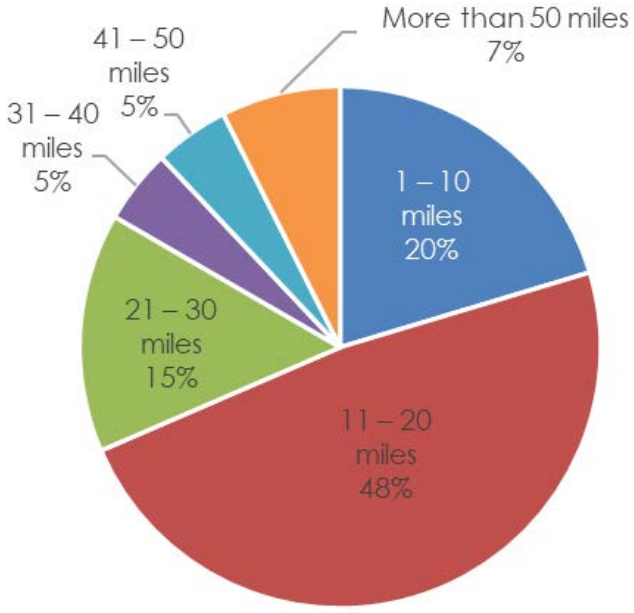

Figure 12: Approximate Commute Distance of MRC West Campus Employees

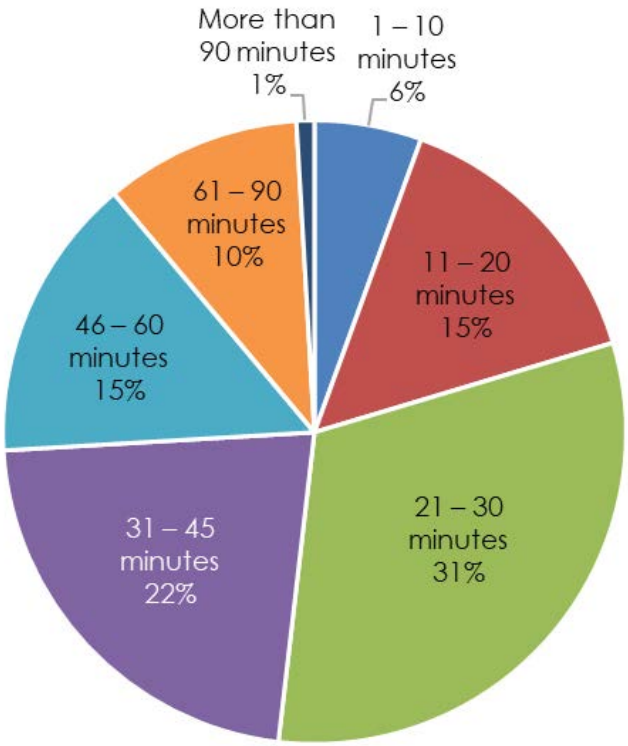

Figure 13: Approximate Commute Time of MRC West Campus Employees

Questions 10 and 11: Number of Respondents in a Carpool or Vanpool

Questions 10 and 11 asked employees who carpooled or vanpooled how many people they shared the vehicle with. There was only one response to these questions. The respondent answered that he or she carpools with four people to work.

Question 12: Parking for Drive Alone or Carpool/Vanpool Commuters

Question 12 asked employees who drive alone or carpool/vanpool to work about parking on campus. Responses that most commuters (78 percent) find that there is adequate parking on campus, and almost 17 percent answered that there was more parking than is needed. The remaining six percent responded that there is not enough parking available.

Questions 13 and 14: Commuter Benefits

Questions 13 and 14 asked employees about commuter benefits, including transit subsidies and guaranteed ride home service. Most (99 percent) of the respondents do not receive a transit subsidy or are not registered with the guaranteed ride home service because they reported driving alone. Only two employees receive a transit subsidy and only one employee is registered with the guaranteed ride home service.

Questions 15 through 18: Employee Telework Trends

Questions 15 through 18 asked employees about their current teleworking activities. Most respondents (61 percent) do not work from home. Approximately 22 percent of respondents telework one or two days per week, mostly on Fridays (see Figure 14). Approximately 43 percent of respondents telework because they enjoy working out of their home or other off-campus location, while 29 percent telework because their commute to the Muirkirk Campus is too long and/or too stressful (Figure 15).

For Question 18, employees were asked about the difficulties of telework, specifically the reason they felt that they could not telework (Figure 16). Most (65 percent) respondents indicated that they do not telework because they need to use resources at the office, such as labs or animals. Approximately 18 percent enjoy interacting with coworkers, and almost 11 percent state that working from home is not supported by their supervisor and/or the agency.

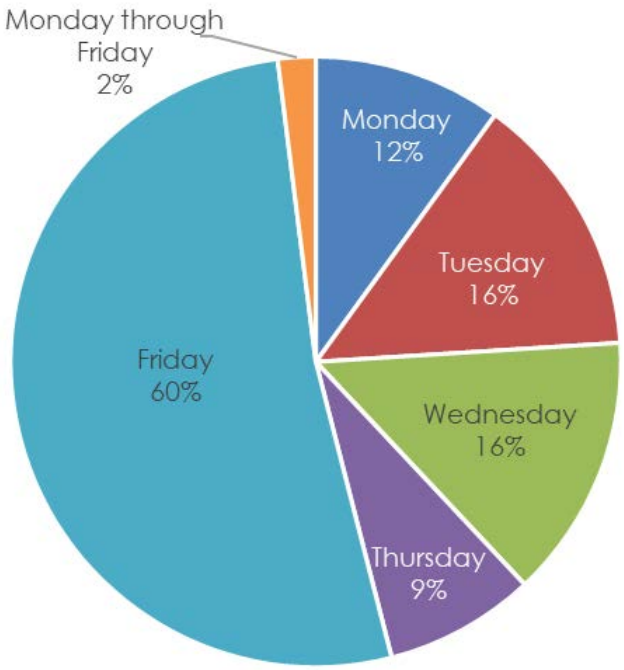

Figure 14: Days per Week On-Campus Respondents Typically Telework

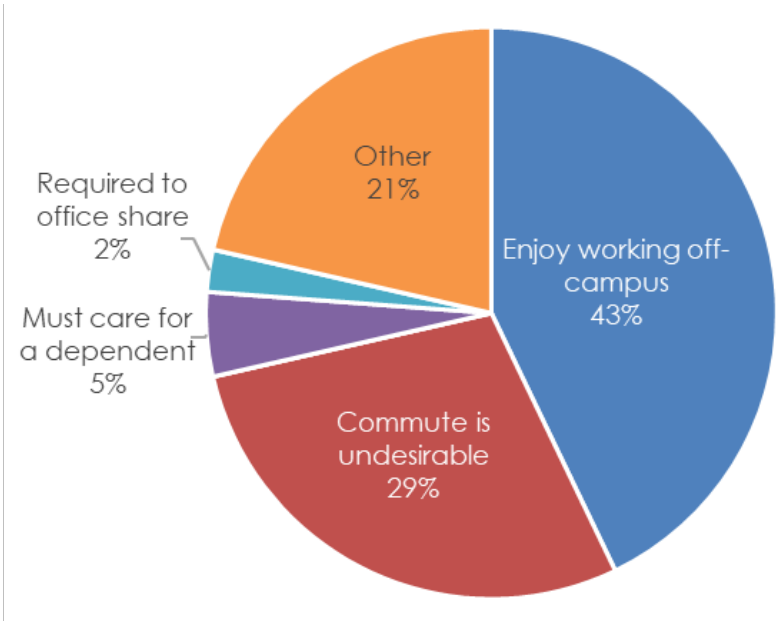

Figure 15: Respondent Reasons for Teleworking

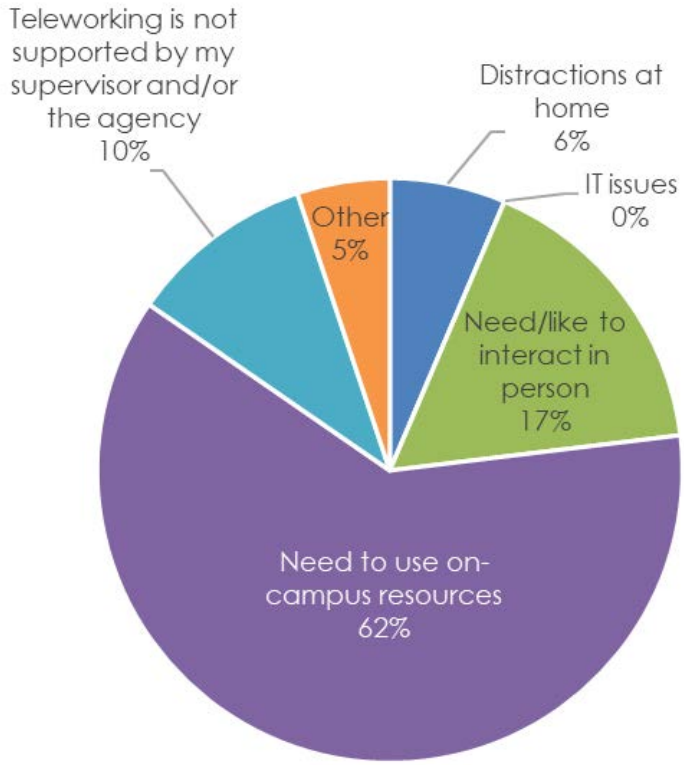

Figure 16: Why Respondents Feel that Teleworking is Difficult

Questions 19 through 21: Walking and Biking to Work

Questions 19 and 20 discussed walking and/or biking to work. Approximately two percent of respondents walk or bike to work. Of the two percent of respondents who walk or bike, half walk or bike rarely or once per week.

Question 21 asked employees if there are any on- or off-campus issues they encounter when walking and/or biking to work. This question was an open response to allow respondents to be specific. All respondents stated that they did not encounter any issues on or off campus when walking or biking to work.

Questions 22 through 27: Post-Pandemic Commute Anticipation

Questions 22 through 27 asked respondents to indicate their opinion on how they believe their work schedules and commute will change after the COVID-19 pandemic subsides. Question 22 asked respondents if they believe their work schedules will change. Most (58 percent) responded saying that they will return to working on campus but expect to work from home more often. Approximately 29 percent said they will return to work full time on campus when it is safe to do so (Figure 17).

Questions 23 through 27 asked respondents about their anticipated commute to work after the COVID-19 pandemic subsides. When asked if they COVID-19 pandemic would change how they commute to work, most (89 percent) respondents said they are not willing to consider an alternative form of travel. This is likely because most employees currently commute by driving alone. When asked what they anticipate their primary commute mode to be after the COVID-19 pandemic subsides, most (97 percent) of respondents said they anticipate driving alone. Question 25 asked respondents if they were willing to consider an alternative form of travel. Most (81 percent) said they would not be willing to consider an alternative form of travel. Question 26 then asked these respondents why they are unwilling to consider an alternative form of travel (Table 3). A slight majority of 52 percent of respondents said that they prefer the comfort of their own vehicle. Other popular responses were that they have an unpredictable schedule (36 percent), they will have some continued concerns after the COVID-19 pandemic (31 percent), transit travel time is too long (26 percent), transit schedules are inconvenient (26 percent), there are no transit stops close to their homes (26 percent), they need a car for childcare (25 percent), and transit services are too far from MRC West Campus (13 percent).

Question 27 asked respondents what they believe needs to be improved for them to alter their forms of commute. Most (78 percent) of respondents said that they more mass transit options are needed (

Table 4). Others said that they would need better public transit, frequent express bus/train services, and a shuttle connection from MRC West Campus to the Muirkirk MARC station.

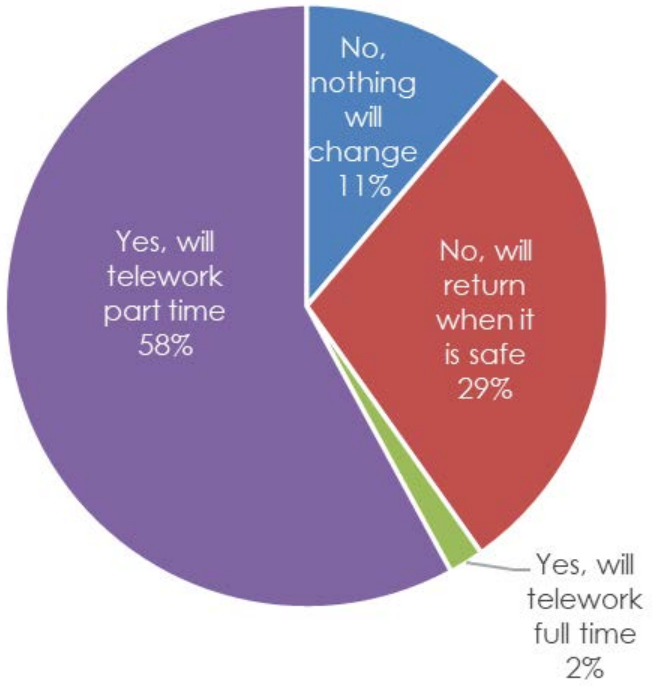

Figure 17: Anticipated Post-COVID Work Habits

Table 3: Why Respondents are Unwilling to Consider Alternative Commute Modes

I like the comfort/convenience of my own vehicle	52%
I have an unpredictable schedule	36%
I will have continued concerns after the COVID-19 pandemic subsides	31%
Transit schedules are inconvenient.	26%
Transit travel time is too long.	26%
There are no transit stops close to my home.	26%
I need car for childcare drop-off/pick-up	25%
I need car during the day for personal use	19%
There are no park-and-ride facilities close to my home	19%
The transit stop is too far from the MRC.	13%
I need car during the day for work	9%
Other	9%
I do not understand how to use the transit system to get to/from the MRC.	8%
The cost is too high	2%

Table 4: Types of Improvements that Would Encourage Respondents to Commute via Modes Other Than Driving Alone

More mass transit options	78%
Better public transit	33%
Frequent express bus/train services	28%
Shuttle connection MRC and the Muirkirk MARC station	28%
Shuttle connection MRC and a park-and-ride facility near your home	28%
Bikeshare or e-scooters	22%
Direct transit connection	22%
Fewer number of seat changes	22%
Decrease in transit travel time and cost	22%
Transit service for irregular shifts	17%
Improved bus stop accommodations at the campus entrance	17%
Assistance with forming a carpool or vanpool	11%
Other	6%

Question 28: Additional Questions and/or Comments

Question 28 was used as an open-ended response section if the respondents had any other additional comments they would like to make. Many of the comments mentioned adding electric vehicle charging stations to the MRC West Campus parking lots. Other comments mentioned the unsafe walking conditions, poor transit schedules, not enough parking, and more flexible working times for employees to avoid driving in traffic.

3.2 OFF-CAMPUS EMPLOYEES

The employee group that would be consolidated on the MRC West Campus site is not known at this time. Therefore, it was not possible to conduct a survey of these employees. However, it is assumed that most of the consolidated employees would come from other leased office locations within the Washington, DC metropolitan area. A survey of employees at these leased office locations was conducted in June 2017 as part of the development of the TMP for the FDA White Oak Campus. Mode share and employee residence location data was utilized from this survey for the development of this TMP.

The results of the off-campus employee survey conducted in June 2017 indicate that approximately 86 percent drive alone to work, while approximately 9 percent commute by various forms of transit, and 3.5 percent carpool or vanpool (Figure 18). Furthermore, of the 86 percent that currently drive alone, approximately 68 percent said they would not be willing to consider another travel mode to commute to and from work.

Figure 19 also shows the home zip codes of the off-campus employee residences. As can be seen, there are very high concentrations of employees along the I-270 and MD 27 corridors. This is likely because most of the off-campus leased office locations are along the I-270 corridor.

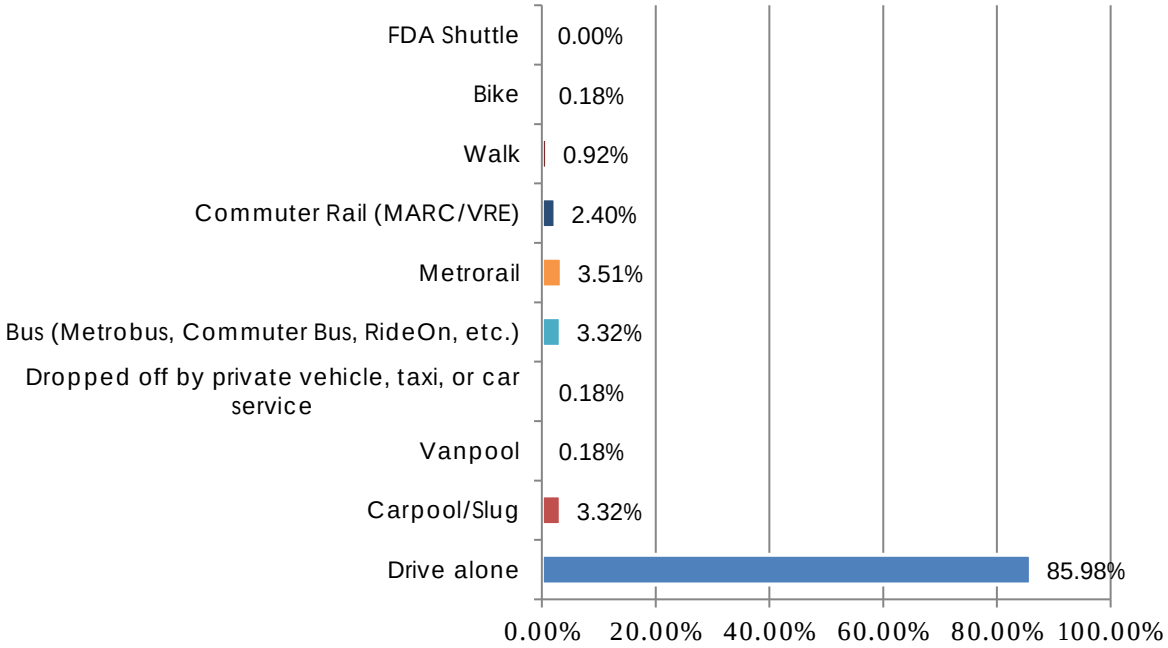

Figure 18: Primary Commute Mode of Off-Campus Employees

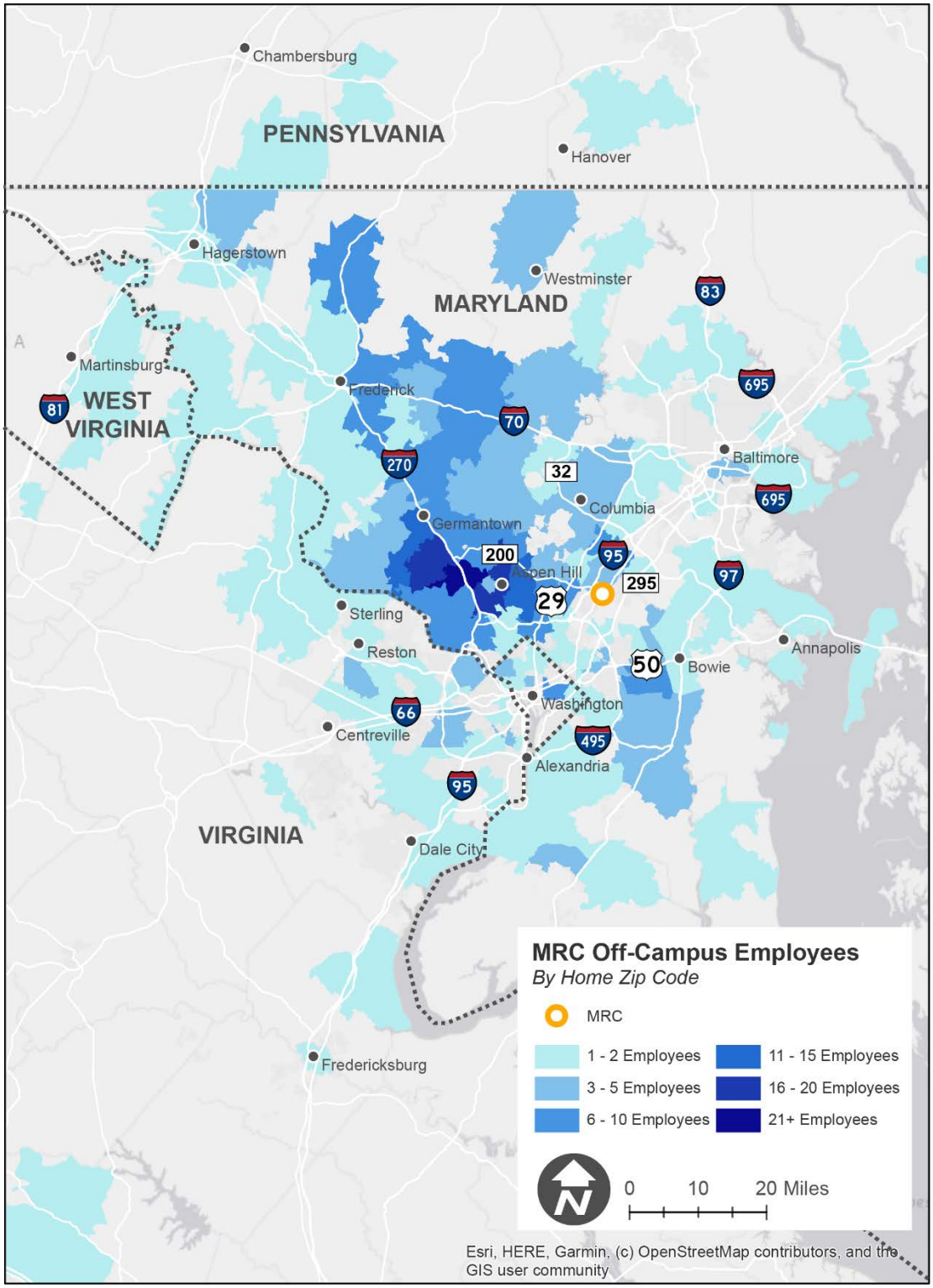

Figure 19: Off-Campus Employee Respondent Home Location

3.3 SURVEY CONCLUSIONS

The results of the employee commuter survey indicate a reliance on driving alone as a commuting mode for most employees. Approximately 97 percent of respondents who work on-campus currently drive alone to work. This is indicative of the lack of a high-frequency and high-capacity transit service to and from the MRC West Campus. Furthermore, very few employees that currently drive to the campus alone would be willing to consider alternative commute modes even if improvements to transit, walking, and biking are made.

The survey of off-campus employees reveals a slightly higher alternative commute mode share, with approximately 86 percent of off-campus employees driving alone to work. The slightly higher non-SOV mode share is likely due to the location of some of the leased offices being located along Metrorail lines, particularly along the Red Line. However, similar to the MRC West Campus survey results, few employees would be willing to consider another travel mode. Employees that would be willing to consider an alternative commute mode would only be willing to do so if significant investments are made in enhancing direct transit service between their residence and place of work.

Based on the assessment of the results of the survey, it is clear that a variety of strategies will need to be implemented in order to achieve the relatively aggressive trip reduction goals that are inherent to the NCPC parking maximum guidelines. The most significant challenge to achieving the goals of this TMP will be the location of employee residences relative to the transit network, and the lack of transit connections to the MRC West Campus. For example, most off-campus employees live along the I-270 corridor. Utilizing transit, such as bus or Metrorail from I-270 to the MRC West Campus, would be extremely difficult today and would likely continue to be even if shuttle connections are made to the Greenbelt Metrorail Station or the Muirkirk MARC station. Thus, it will be important to provide a variety of incentives and services that are competitive to driving alone, particularly for the employees that could utilize regional roadways, such as MD 200 to access the site.

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4.0 TRAFFIC IMPACT ANALYSIS

The *Traffic Impact Study* (TIS) *for U.S. Food and Drug Administration Muirkirk Road Campus Master Plan* (2021) was prepared by Stantec Consulting Services, Inc. to assess and report potential transportation impacts resulting from the proposed increase in employee population up to a total of 1,800 employees by 2040. The No Action Alternative evaluates the future transportation network with future volumes, excluding FDA-generated volumes. It includes traffic growth due to nearby developments, increases in background traffic, and any future development and infrastructure enhancements recommended by other transportation agencies. The Action Alternative examines future anticipated volumes on the study area roadway network, taking into consideration traffic volumes and infrastructure improvements under the No Action Alternative, as well as traffic that would be generated by the relocation.

It should be noted that four Master Plan action alternatives are being evaluated as part of the Environmental Impact Statement (EIS). However, this TMP addresses Master Plan action alternative B only because it is the preferred alternative. Therefore, this section only addresses the traffic analysis associated with Master Plan action alternative B.

Proposed development on the MRC West Campus is anticipated to happen in three phases. The first phase would consist of the relocation of existing employees from an aging building on the site into MOD 2 and a new building and is anticipated to be completed within the next three to five years. Phase 2 consists of the addition of 168 employees to the MRC West Campus, bringing the entire site population to 468 employees, and is anticipated to be complete by 2030. The full anticipated site population of 1,800 is anticipated to occur within a 20-to-30-year time frame with 2040 selected as a benchmark for this analysis (Phase 3). Since Phase 1 consist of internal relocations of employees and would not generate additional trips to the study area roadway network, only Phases 2 (2030) and 3 (2040) were analyzed in this TIS. Therefore, the project team also analyzed an Action with Mitigation condition for the 2030 and 2040 future years.

4.1 STUDY AREA

The vehicle study area for the MRC West Campus TIS is located primarily in Laurel which is in Prince George's County, Maryland. The vehicle study area limits are defined as primarily bounded by Muirkirk Road to the north, Powder Mill Road to the south, Laurel Bowie Road (MD 197) the east, and Virginia Manor Road (MD 206)/Konterra Drive to the west.

Characteristics of the major corridors within the study area were obtained from the Maryland Annual Average Daily Traffic (AADT) SHA Statewide AADT Lines map through the Maryland GIS Data Catalog denoting functional classification, 2018 AADT, 2018 Average Annual Weekday Traffic (AAWDT), 2018 Truck AADT, and number of lanes. This information is summarized in Table 5.

Table 5: Study Area Major Corridor Characteristics

Roadway	Functional Class	2018 AADT (1,000 vpd)	2018 AAWDT (1,000 vpd)	2018 Truck AADT (vpd)	Number of Lanes
Muirkirk Road (east of Old Baltimore Pike)	Minor Arterial	10.7	11.5	297	Varies (2-4)
Muirkirk Road (west of Old Baltimore Pike)	Minor Arterial	23.1	24.7	905	Varies (2-4)
Virginia Manor Road	Major Collector	10.4	11.0	N/A	Varies (4-6)
MD 212 (Ritz Way)	Minor Arterial	17.1	18.3	531	6
MD 197	Principal Arterial Other	50.1	53.6	N/A	6
Konterra Drive	Major Collector	13.7	14.5	N/A	4
WB MD 200 On-Ramp	Principal Arterial Other Freeways	2.0	2.1	N/A	2
EB MD 200 Off-Ramp	Principal Arterial Other Freeways	2.8	3.0	N/A	2
Old Baltimore Pike	Minor Arterial	16.0	17.1	1720	2
Powder Mill Road	Minor Arterial	12.0	12.8	N/A	2

4.1.1 Data Collection and Hours of Analysis

At the time of this writing, the global community was experiencing the effects of the COVID-19 pandemic which were significantly impacting typical traffic conditions. Therefore, a traditional traffic count data program was not possible. The project team reviewed historic traffic count data on the Maryland Department of Transportation State Highway Administration (SHA) Internet Traffic Monitoring System (I-TMS), as well as from other previous traffic studies. However, data was not available for all study area intersections, and some of the data exceeded ten years old. Therefore, in coordination with Prince George's County, a data collection plan was developed. The plan consisted of collecting turning movement count data at all study intersections, listed in Table 6 and shown in Figure 20, and then comparing a few of the intersection counts with data obtained from ITMS. The comparison of volumes was then used to develop factors in which to increase the 2021 field data to a pre-COVID condition.

Table 6: Study Area Intersections

Study Area Intersection	Signalization
Konterra Drive & MD 200 On-Ramp	Signalized
Konterra Drive & Md 200 Off-Ramp	Signalized
Virginia Manor Road/Konterra Drive & Muirkirk Road	Signalized
Virginia Manor Road/Ritz Way (MD 212) & Virginia Manor Road	Unsignalized
Muirkirk Meadows Drive & Muirkirk Road	Unsignalized
Brickyard Boulevard/Driveway & Muirkirk Road	Signalized
Old Baltimore Pike/Cedarhurst Drive & Muirkirk Road	Signalized
Pasture Road/Snowden Woods Road & Muirkirk Road	Unsignalized
Odell Road/Cedarbrook Lane & Muirkirk Road	Signalized
Laurel Bowie Road (MD 197) & Muirkirk Road/Crystal Plaza Driveway	Signalized
Odell Road & Springfield Road	Unsignalized
Odell Road & Ellington Drive	Unsignalized
Powder Mill Road & Springfield Road	Unsignalized

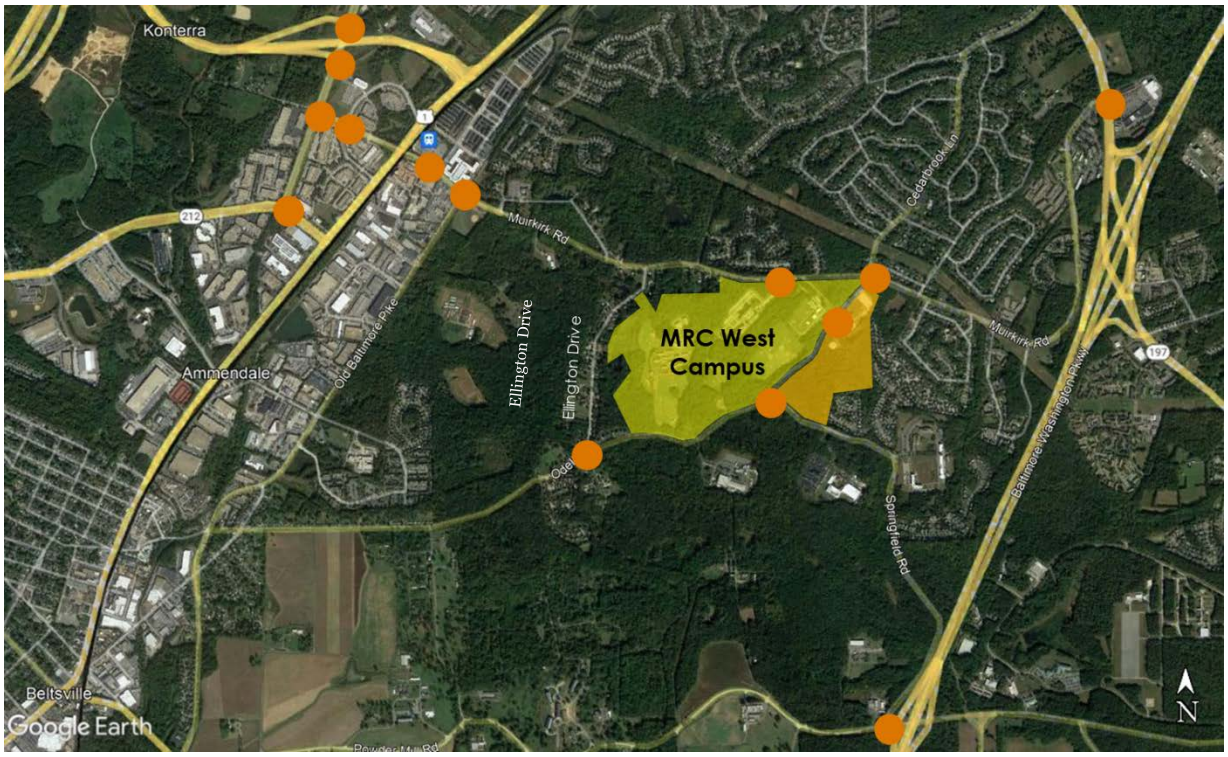

Figure 20: Study Area Intersections

4.2 ANALYSIS RESULTS

Synchro 10 traffic analysis software was used to perform the capacity analyses for the signalized and unsignalized intersections in the study area. This software package provides average control delay, volume-to capacity ratio (v/c), queues, and level of service (LOS) for each lane group and for the overall intersection.

4.2.1 2021 Existing Conditions

The existing roadway networks within the vicinity of MRC West Campus were assessed to provide a baseline to compare to future conditions. Due to the COVID-19 pandemic, traffic volumes on the roadway network were much lower than what would be anticipated post-pandemic. In order to develop 2021 traffic volumes, field-collected data was compared to data obtained from existing pre-COVID count locations to develop factors in which to adjust the field-collected data to reflect anticipated 2021 volumes without the impacts of the pandemic. The study area intersections were analyzed utilizing Synchro 10/SimTraffic. The results of the capacity analysis show that all but two study area intersections operate at an overall level of service (LOS) D or better. The results also show that six out of the 13 study area intersections operate with one or more lane groups at LOS E or F in at least one peak hour.

4.2.2 2030 No Action Condition

The 2030 No Action Condition evaluates the future transportation network with future volumes, excluding the planned consolidation of additional employees on the MRC West Campus. It includes traffic growth due to nearby developments, increases in background traffic, and future development and infrastructure enhancements recommended in the *Brickyard Traffic Impact Study* (2008) and *Konterra Town Center-East Traffic Impact Study* (2008), prepared by The Traffic Group, as well as *Bureau of Engraving and Printing Transportation Impact Study* (2020), prepared by Alliance Consulting Group. Under the No Action Condition, delay and queuing are anticipated to increase at 10 study area intersections. Seven out of the 13 study area intersections would operate with one or more lane groups at LOS E or F in at least one peak hour.

4.2.3 2040 No Action Condition

The 2040 No Action Condition evaluates the future transportation network with future volumes, excluding the planned expansion. It includes traffic growth due to nearby developments, increases in background traffic, and future development and infrastructure enhancements recommended in the *Brickyard Traffic Impact Study* (2008) and *Konterra Town Center-East Traffic Impact Study* (2008), prepared by The Traffic Group, as well as *Bureau of Engraving and Printing Transportation Impact Study* (2020), prepared by Alliance Consulting Group. Under the No Action Condition, delay and queuing are anticipated to increase at 11 study area intersections. Seven out of the 13 study area intersections would operate with one or more lane groups at LOS E or F in at least one peak hour. Significant increases in delay and queueing would be

anticipated at the unsignalized intersections of Muirkirk Road and Muirkirk Meadows Drive and Virginia Manor Road (MD 212/MD 206) and Ritz Way.

4.2.4 2030 Action Condition

The 2030 Action Condition analysis examines future anticipated volumes, taking into consideration traffic under the 2030 No Action Condition as well as traffic that would be generated by the proposed increase in employees at the MRC West Campus. The Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition, was utilized to estimate the number of AM peak hour, PM peak hour, and total weekday trips that would be generated by the additional 168 MRC West Campus employees. It should be noted that because of the COVID-19 pandemic, accurate driveway volume counts for existing employees on the site was not possible. Therefore, the 2030 Action alternative includes trips generated for all 468 employees (300 existing and the 168 additional employees). A 50 percent non-SOV trip credit was applied to the base trip generation rates in 2030 to estimate the anticipated vehicular trip generation from the proposed growth based on the goals established in this TMP (Table 7).

Table 7: Future Auto Trip Generation

	Number of Employees	AM Peak Hour			PM Peak Hour			Total Daily
		In	Out	Tot	In	Out	Tot	
Existing (2021)	300	159	22	181	28	138	166	1,182
Phase 2: 2030 Action Alternative B	468	217	30	247	39	191	230	1,657
With Non-SOV Mode Share Goal (50%)		**109**	**15**	**124**	**20**	**96**	**115**	**829**
Phase 3: 2040	1,800	674	92	766	106	518	624	4,613
With Non-SOV Mode Share Goal (50%)		**337**	**46**	**383**	**53**	**259**	**312**	**2,307**

A trip distribution analysis was conducted to estimate how the new vehicle trips would travel to and from the site. Employee home ZIP code data for off-campus and on-campus, obtained as part of the MRC West Campus commuter survey that was conducted in November 2020, indicated that most employees would likely arrive from points north and west of the MRC West Campus via I-95 and MD 200. The trip distribution also accounts for the proposed new access point on Odell Road.

The results of the capacity analysis show that the trips generated would increase movement delay by an additional 10 or more seconds at six of the study area intersections when compared to the 2030 No Action Condition. Seven out of the 14 study area intersections would operate with one or more lane groups at LOS E or F in at least one peak hour.

4.2.5 2040 Action Condition

The 2040 Action Condition analysis examines future anticipated volumes, taking into consideration traffic under the 2040 No Action Condition as well as traffic that would be generated by the proposed growth of MRC West Campus employees. The ITE Trip Generation Manual, 11th Edition, was utilized to estimate the number of AM peak hour, PM peak hour, and total weekday trips that would be generated by the additional 1,332 MRC West Campus employees. It should be noted that because of the COVID-19 pandemic, accurate driveway volume counts for existing employees on the site was not possible. Therefore, the 2040 Action Condition includes trips generated for all 1,800 employees. A 50 percent non-SOV trip credit was applied to the base trip generation rates in 2040 to estimate the anticipated vehicular trip generation from the proposed growth based on the goals established in this TMP (Table 7). The 50 percent non-SOV trip credit is based on the NCPC parking requirements of one parking space per two employees.

The results of the capacity analysis show that the trips generated would increase movement delay by an additional 10 or more seconds at seven of the study area intersections when compared to the 2040 No Action Condition. Seven out of the 14 study area intersections would operate with one or more lane groups at LOS E or F in at least one peak hour.

4.2.6 2030/2040 Action Condition with Mitigation

An Action Condition with Mitigation was created to help reduce the delay times for both project years. However, it should be noted that the proposed Action Condition only minimally increases delay at most of the critical study area intersections. Most of the intersections for which mitigation has been developed, with the exception of the intersection of Muirkirk Road and the MRC West Campus site driveway (Pasture Road), would experience significant delay and queuing in the No Action conditions. Thus, the mitigation measures are used to demonstrate what types of improvements could improve operations at these intersections. However, the cost and responsibility for the mitigation should not be placed on future projects associated with the MRC Master Plan.

The 2030 and 2040 Action Conditions with Mitigation provide mitigation measures at locations that would experience an increase in intersection delay of more than 10 seconds per vehicle and/or degradation of level of service to LOS E or F. The recommended mitigation measures include signal timing and coordination enhancements at all signalized intersections as well as the following physical improvements. The recommended phase for implementation is shown in parentheses.

KONTERRA DRIVE AND MD 200 OFF-RAMP

- Provide a second eastbound right-turn lane from the MD 200 ramp onto southbound Konterra Drive. (Phase 3)

VIRGINIA MANOR ROAD (MD 206)/KONTERRA DRIVE AND MUIRKIRK ROAD

- Provide a second southbound left-turn lane from Konterra Drive onto eastbound Muirkirk Road. (Phase 2)
- Provide a second westbound left-turn lane from Muirkirk Road onto southbound Muirkirk Road and eliminate the split phasing for the Muirkirk Road approaches. (Phase 2)
- Provide a third southbound left-turn lane from Konterra Drive onto eastbound Muirkirk Road and construct a third receiving lane on Muirkirk Road that would become a right-turn only lane at Muirkirk Meadows Drive. (Phase 3)

VIRGINIA MANOR ROAD/ RITZ WAY (MD 212) AND VIRGINIA MANOR ROAD (MD 206)

- Install a traffic signal that is coordinated with the other signals along Virginia Manor Road/Konterra Drive (MD 206). A roundabout could also be considered at this intersection but would require further investigation. (Phase 2)

MUIRKIRK MEADOWS DRIVE AND MUIRKIRK ROAD

- Install a traffic signal that is coordinated with the other nearby traffic signals on Muirkirk Road. (Phase 2)

OLD BALTIMORE PIKE/ CEDARHURST DRIVE AND MUIRKIRK ROAD

- Restripe the eastbound Muirkirk Road approach to consist of one left-turn lane, one through lane, and one right-turn only lane. (Phase 2)
- Modify the southbound Cedarhurst Drive approach to consist of one shared through-right lane and one shared through-left lane. (Phase 3)

PASTURE ROAD/ SNOWDEN WOODS ROAD AND MUIRKIRK ROAD

- Install a traffic signal at the intersection. A roundabout could also be considered at this location. However, this would warrant further investigation as additional right-of-way (ROW) may be required. (Phase 2)

POWDER MILL ROAD AND SPRINGFIELD ROAD

- Install a traffic signal at this intersection and provide separate right and left-turn lanes on westbound and eastbound Powder Mill Road, respectfully. This is also a recommendation contained in the Bureau of Engraving and Printing Transportation Impact Study (2020), prepared by Alliance Consulting Group. It is assumed that this signal would be implemented as part of the Bureau of Engraving and Printing project. (Phase 2)

MUIRKIRK ROAD/CRYSTAL PLAZA AND LAUREL BOWIE ROAD (MD 197)

- Provide two northbound and southbound left-turn lanes from MD 197 to Muirkirk Road/Crystal Plaza. (Phase 3)

- Provide a second eastbound left-turn lane from Muirkirk Road to northbound MD 197. (Phase 3)

In addition to the above mitigation measures, it is also recommended that FDA engage in a transportation management plan (TMP) that outlines transportation demand management (TDM) strategies to reduce single-occupancy vehicle trips in order to achieve the NCPC parking ratio requirements. A TMP document has been prepared for the MRC West Campus that provides a variety of policy, service, and infrastructure strategies, which are anticipated to reduce single-occupancy vehicle trips to and from the campus, which would help to mitigate the impacts to surrounding transportation network.

Additionally, the Konterra Town Center – East development, which was approved in 2009 but has since not been started, was included in this analysis. This development is anticipated to generate a significant number of trips. Therefore, prior to the implementation of any of the mitigation measures west of the US 1 corridor, the status of the Konterra Town Center development should be re-evaluated. It is likely that many of the mitigation measures would not be required if the Konterra Town Center development does not proceed.

Furthermore, this study was conducted during the COVID-19 pandemic. COVID-19 has significantly changed commute patterns, and it is anticipated that these changes may have a long-term impact, even after the pandemic is over, that may include an increased number of employees working from home, as well as a reluctance for people to use mass transit or ride in carpool or vanpool vehicles. Therefore, it is recommended that the intersections identified as requiring mitigation be re-evaluated in the future to determine if the mitigation recommendations are still applicable.

4.3 CONCLUSION

The results of this traffic analysis show that an increase of 1,500 employees at the MRC West Campus by 2040 would have a moderate adverse impact on traffic conditions in the study area. An overall increase in delay of 10 seconds or more would occur at seven of the 14 study area intersections. It should be noted that other nearby developments and background traffic growth will have a significant adverse impact on many of the study area intersections. Mitigation measures were considered at all study intersections to address operational deficiencies that are present in the No Action as well as the Action Conditions. As traffic spreads out on the network from the site, the impact of the trips on the network are less notable. Many of the impacts that are experienced on the intersections that are over a mile from the site are largely due to conditions under the No Action Condition. Thus, the full extent of the improvements needed in this area should not be solely attributable to future projects at the MRC West Campus.

Furthermore, it is recommended that the intersections identified as requiring mitigation be re-evaluated in the future at the time of permitting for the new office buildings proposed in the Master Plan to determine if the mitigation recommendations are still applicable once the full impact of COVID-19's effects on travel behavior is understood, as well as to determine if the planned developments, such as Konterra Town Center – East, proceed.

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5.0 TRANSPORTATION DEMAND MANAGEMENT (TDM)

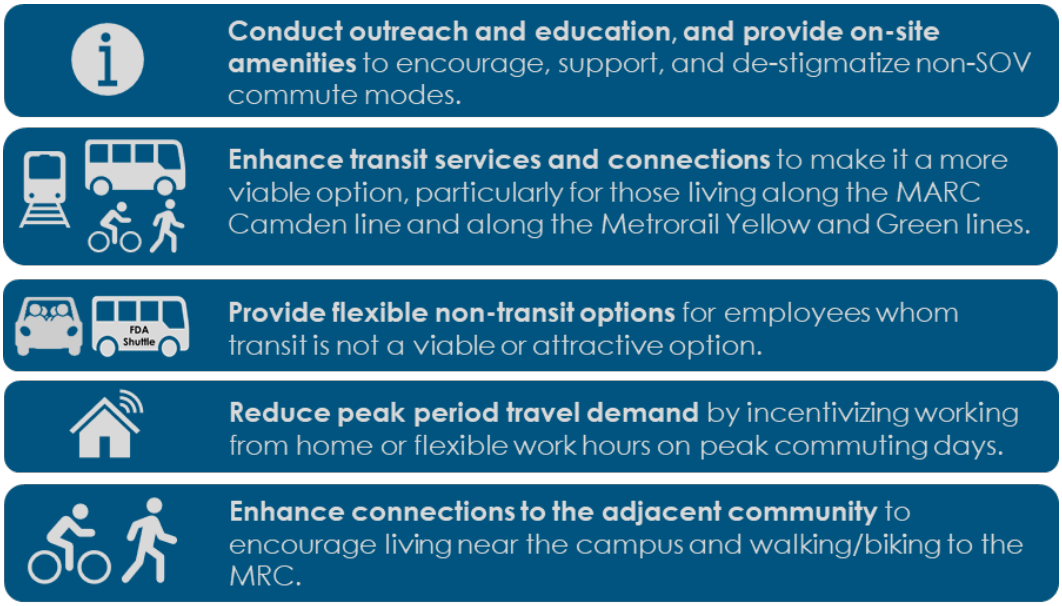
People choose their mode of travel based on several factors, including convenience, cost, time, habit/familiarity, reliability, punctuality, frequency, cleanliness, and safety. An effective TDM program provides a variety of strategies that affect one or more of these factors. The approach to TDM at the MRC West Campus will have to be tailored to the unique needs of the site. The exurban location of the MRC West Campus, as well as the lack of transit options, will make it a significant challenge to encourage a reduction in the number of employees driving alone.

Furthermore, COVID-19 has had a significant impact on travel and will likely continue to have an impact on commuting within the near future. While the survey indicates that most existing MRC West Campus employees anticipate coming back to the campus once the pandemic subsides to access the laboratories and other resources on campus to perform their work, recent policy guidance may allow other employees that are to be consolidated at the MRC West Campus to work remotely more often. However, the duration of the impacts to commuting will continue to be dependent on the perceived risk of the virus, and a personal and organizational re-evaluation of the comfort, convenience, and desirability of telecommuting, as well as transit and carpooling/vanpooling. These impacts will put added challenges on the MRC West Campus. Therefore, this TMP considers ways to heavily incentivize desired behaviors through enhanced facilities on and off the campus, as well as policies that recognize and reward those that are choosing other commute modes for those employees that will be working on-campus on any given day.

5.1 POTENTIAL TDM STRATEGIES FOR MRC WEST CAMPUS

As noted earlier in this report, a variety of strategies will be needed to achieve the SOV reduction goals (25 percent non-SOV by 2030 and 50 percent non-SOV by 2040). As such, the overall approach to TDM on the MRC West Campus will be multi-fold and follow the general principles as outlined in the following graphic:

Transportation Demand Management (TDM)



The following sections contain the recommended strategies/practices for the MRC West Campus. An implementation plan for the recommended strategies is discussed in Section 6.0. Furthermore, it should be noted that FDA currently has a TDM program at the White Oak Campus (approximately six miles west of the MRC West Campus) that is managed by a full-time employee transportation coordinator (ETC) and part-time transportation management staff with other transportation related responsibilities. Therefore, it is recommended that the TDM strategies identified in this TMP for the MRC West Campus be initially coordinated with the program on the White Oak Campus.

It should be noted that the Department of Health and Human Services has provided guidance to its agencies (including the FDA) to continue to allow employees to work from home post-COVID and established guidance for the minimum number of days employees should be in the office. However, the high proportion of existing employees, as well as those anticipated to be consolidated on the campus in Phase 2 that require laboratory access, may make it difficult to achieve the 50% non-SOV mode share goal by 2030 due to the relatively low on-site population and the need for employees to be on site to work.

Furthermore, teleworking will likely be both an asset and challenge to transportation demand management at the MRC West Campus. A high teleworking mode share will help to overcome the significant challenge of achieving the 50% mode share goal. However, a high telework mode share will also make other strategies, such as carpool/vanpool, and enhanced transit connections more challenging, because work schedules will be more varied, and the average on-site population could be too low to support higher-cost strategies.

Furthermore, given the relatively low population planned for the MRC West Campus, it may be challenging to justify the need for, or cost of, more intensive TDM strategies such as new transit services and shuttle connections. However, there are several agencies and other campuses

within the area of the MRC West Campus including the Bureau of Printing and Engraving (planned), the USDA, Capitol Technical University, Special Collections Service, among others. When considered collectively, there will be a relatively large employment base in the area of the MRC West Campus that could support higher-intensity transit and shuttle services, as well as expand the potential user base for strategies like carpooling and vanpooling. Although not within the purview of this effort for the MRC West Campus, FDA should consider coordinating TDM strategies, such as shuttle services, carpooling, vanpooling, and advocating for other improvements to transit, pedestrian, and bicycle infrastructure in the study area.

5.1.1 Conduct Outreach and Education and Provide On-Site Amenities

The cornerstone to a successful TDM program is employee outreach and education regarding transportation options that encourages, supports, and de-stigmatizes non-SOV commute modes. Outreach and education start with the employee transportation coordinator (ETC), which manages the program and conducts the outreach, and supplemented with other tools and incentives such as real-time commute information and attractive on-site amenities.

5.1.1.1 Employee Transportation Coordinator (ETC)

An ETC is a "champion" of alternative commute modes. FDA has a robust program for the White Oak Campus with full time ETC and part-time transportation management staff that are responsible for other transportation-related functions. Given the proximity of the White Oak Campus to the MRC West Campus, the ETC on the White Oak campus could initially assume responsibility for managing the TDM program on the MRC West Campus. However, it is recommended that FDA consider assigning at least one ETC that is specific to the MRC West Campus upon full site occupation. ETC responsibilities include, but are not limited to:

- **Coordination**
  - Coordinate TDM strategies between the White Oak Campus and the MRC West Campus.
  - Obtain employee home zip codes for all existing MRC West Campus employees and provide ride matching for carpool and vanpools.
  - Obtain home zip codes of employees to be consolidated to the MRC West Campus and develop a transition package highlighting non-SOV transportation options based on employee home geographies.
  - Monitor the performance of the TDM program by conducting annual employee commuter surveys and maintaining statistics on the number of employees utilizing each mode of transportation.
  - Work with a fleet management firm or provide government motor pool vehicles to provide vehicles on-site for employees that commute by modes other than driving alone to use to get to meetings or other errands during the day. Alternatively, or establish an account with a rideshare company, such as Uber or Lyft.
  - Coordinate with other agencies and campuses near the MRC West Campus to coordinate on TDM strategies such as shuttles, carpool, vanpool, and to help advocate for improvements to transit service and pedestrian and bicycle infrastructure. Approximate travel distances between the MRC West Campus main entrance on Muirkirk Road and nearby agencies/ campuses is shown in Table 8, below.

Table 8: Travel Distance to Nearby Agencies and Campuses

Facility	Travel Distance to MRC West Campus Muirkirk Road Entrance
FDA White Oak Campus	8.7 miles
Adelphi Laboratory	6.9 miles
Beltsville Agricultural Research Center	3.7 miles
U.S. Secret Service Rowley Training Center	3.3 miles
Future Bureau of Engraving and Printing	3.2 miles
Capitol Technology University	1.6 miles
Special Collections Service	1.4 miles
Beltsville Information Management Center	1.4 miles
Maryland National Guard	0.5 miles

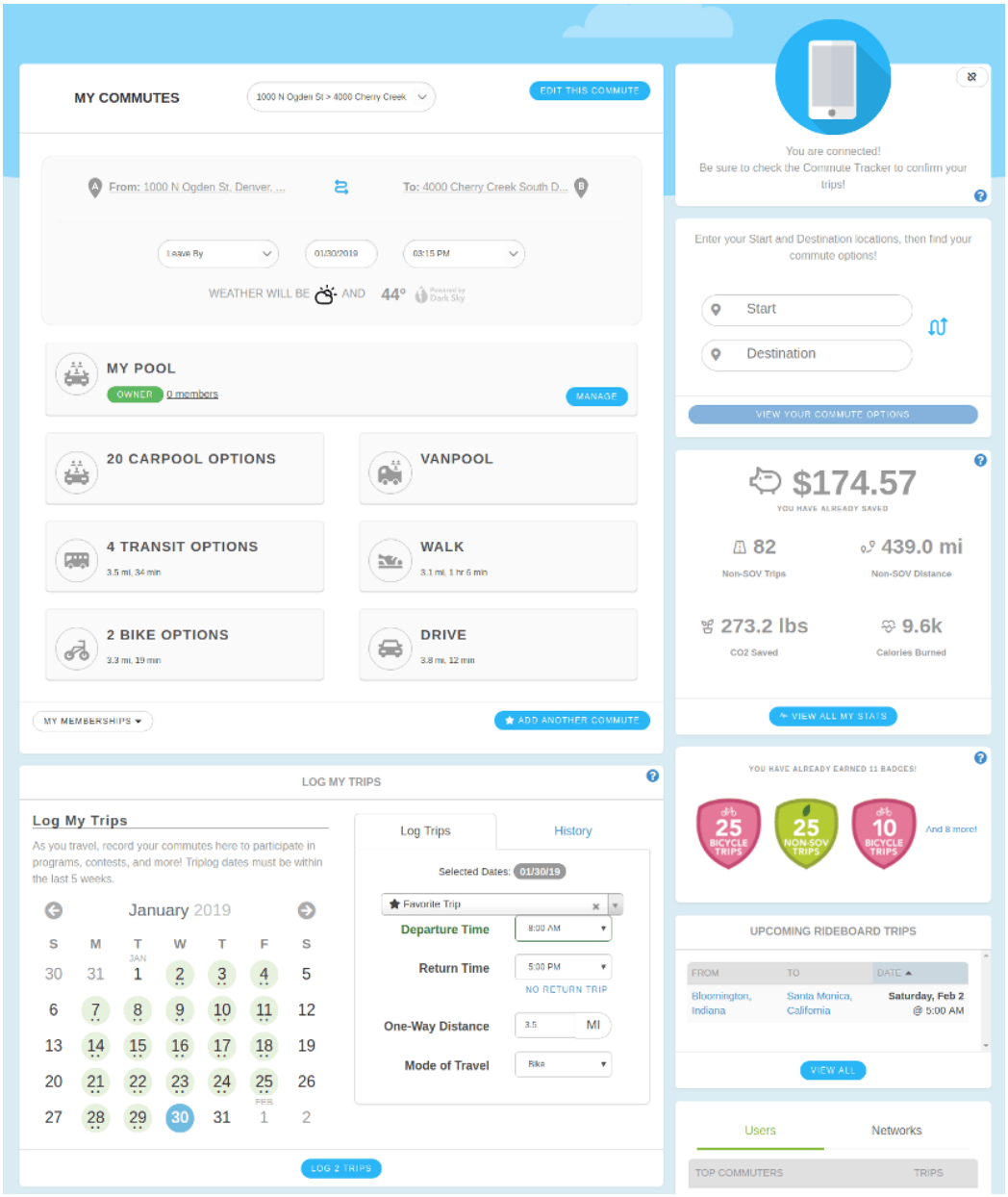
- **Communication**
  - Educate employees through emails, mailings, and regular transportation fairs/brown bag lunches.
  - Develop a designated parking and transportation webpage/clearinghouse for all transportation programs and benefits.
  - Maintain transportation information stations within all building lobbies that provides real-time traffic and transit information, as well as route schedules, and information on other commute modes.
  - Consider the implementation of a commuter management app such as Ride Amigos or Luum that helps encourage employees to use non-SOV modes, as well as to manage their commutes.
- **Employee Assistance**
  - Assist employees in obtaining the maximum federally allowed transit subsidies or registering for Guaranteed Ride Home programs.
  - Encourage employee participation in events such as Car Free Day, Park(ing) Day, and Bike-to-Work Day.
  - Reach out to on-campus support staff and contractors to encourage them to utilize modes other than driving alone. At a minimum, consider including them in the carpool/vanpool and transit programs.
- **Advocacy**
  - Coordinate directly with agencies such as MWCOG, NCPC, WMATA, MTA, RTA, Prince George's County, and SHA, to discuss methods to reduce SOV trips.
  - Advocate for improvements to safety and facilities on the surrounding roadway network as well as transit stops/stations and onboard transit vehicles.

5.1.1.2 Commute Management Platform

Commute management platforms, such as Luum and RideAmigos, help employers to engage and empower employees to make better commuting choices. For employers, these platforms help to engage and educate employees, administer benefits, manage parking, integrate

mobility options, manage data, and organize events and challenges. For employees, these platforms offer mobile apps that help them plan their commute with real-time transit information, trip planning, rideshare matching, commute logging, etc. RideAmigos, for example, utilizes a commute dashboard where each employee can view their options, plan their commute, find a carpool, measure cost savings, and check their rewards status (Figure 21). Other unique features of these types of platforms are the ability to organize challenges and offer rewards to participants.

FDA should consider utilizing this type of platform at the MRC West Campus and could also consider utilizing it on other campuses, such as the White Oak Campus. Consideration should also be given to coordinating with other nearby agencies and campuses to link commute management between sites.



Source: RideAmigos, 2021

Figure 21: RideAmigos Commuter Dashboard

5.1.1.3 On-Site Amenities

A variety of on-site amenities can help to encourage the use of non-SOV travel modes for commuting. The following amenities are recommended and have been included in the Master Plan:

- **On-Site Transportation Hub:** A transportation hub that lies just outside of the secure area of the campus would allow employees to access shuttles, buses, carpool and vanpool

vehicles, and transportation network companies (TNCs) like Uber and Lyft, while avoiding the security challenges that these modes present when trying to access a secure campus. It could also be utilized in the future by autonomous vehicles pick up and drop off. The transportation hub should also include a climate-controlled waiting area with comfortable seating, real-time transit information, and Wi-Fi. Combining the transportation hub with the visitors' center could be advantageous by combining multiple uses into one building and allowing visitors to access the site via non-SOV modes.

- **Dining, Banking, Sundries, Fitness Center:** Amenities such as on-site dining, banking, sundries, and fitness centers can be used to discourage vehicle trips during the day and encouraging non-SOV commuting. One of the most common reasons for SOV commuting is the need for a vehicle for errands during the day. However, these errands are typically short duration like buying lunch, banking, or working out. It should be noted that the anticipated on-site population may not be enough to support a bank branch at the MRC West Campus. However, a full-service ATM should be provided that would allow employees to do basic banking functions such as depositing and withdrawing money.

However, FDA will have to evaluate future on-site population potential given the recent guidance for continued working from home. Smaller average on-site populations may make it difficult to sustain on-site amenities like dining, banking, and sundries.

- **Fleet Management, Shuttles, or TNC Access:** Although onsite amenities would help to eliminate some of the travel needs employees experience during the day, some employees may need transportation to and from off-site meetings, or to run other errands. The need to attend meetings off-campus can be a deterrent to commute using non-SOV modes, even if the employee does not actually have to meet off-campus on a frequent basis. Government motor pool vehicles could be provided for employees that need to get to meetings during the day. However, they cannot be used for personal errands. Providing alternative travel modes during the day can help employees feel more comfortable about responding to needs at work and attending meetings, even if they happen on short notice. TNC access can be used by employees instead of a government motor pool to attend off-campus meetings or to run personal errands during the day.

  Therefore, an assessment of this need should be conducted to determine what type of transportation could be provided. For example, if there are a number of employees that regularly need to access the main campus at White Oak, a shuttle service could be provided to connect the MRC West Campus to the White Oak campus. Shuttle connections to other FDA office locations could be considered if demand for travel warrants.

5.1.2 Enhance Transit Services and Connections

5.1.2.1 Connect to the Muirkirk Station on the MARC Camden Line

The commuter survey results indicate that a significant number of MRC West Campus employees live within approximately five miles of stations along the MARC Camden Line. However, one of the most significant impediments to utilizing MARC to access the campus is the lack of a last-mile connections. While RTA Route 302 serves the Muirkirk Station as well as the campus, it operates on relatively long headways of approximately one hour and the service does not align well with the arrival and departure of trains at the station.

At 1.6 miles from the front door of MOD 1 on the MRC West Campus to the Muirkirk Station, it is likely that walking is not a viable last-mile connection. FDA could consider working with Prince George's County to provide a dedicated bicycle facility (multi-use trail or protected bike lanes) along Muirkirk Road (see Section 5.1.5.1). However, it is likely that a bicycle connection would not be appealing to all employees and would be used only seasonally. In addition, as there are not existing bikeshare facilities in the study area, an on-campus bikeshare would likely be needed to provide bikes for commuters to travel between the station and the MRC West Campus. Therefore, it is recommended that FDA consider operating a shuttle between the Muirkirk Station and the MRC West Campus (Figure 22). The shuttle should be scheduled to align with the AM peak period arrivals and PM peak period departures at the station. The shuttle could operate on an on-demand basis for employees that are arriving to or departing from the station during the middle of the day or after the PM peak period. Given the relatively short distance, an autonomous shuttle could be considered once technology reaches a point where it is deemed feasible to operate an autonomous shuttle within mixed traffic.

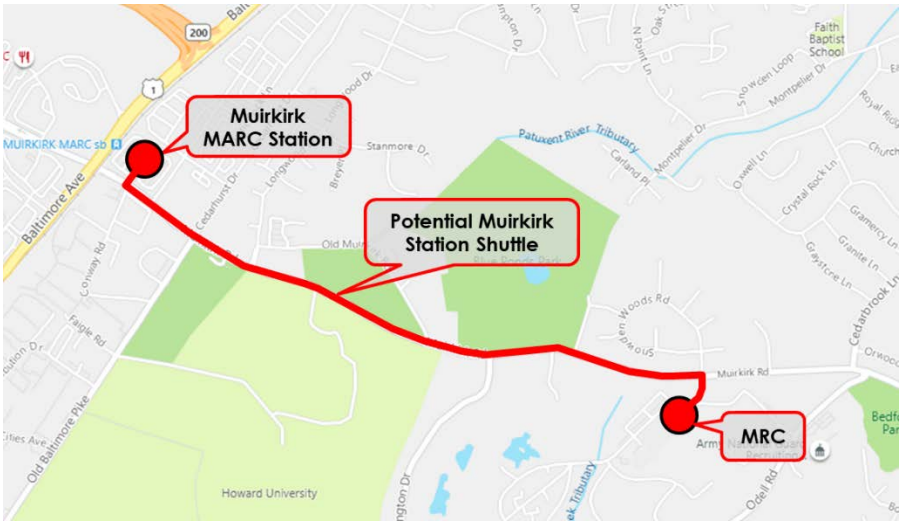


Figure 22: Potential Shuttle Route to Muirkirk Station

5.1.2.2 Connect to Nearby Metrorail Stations

The closest Metrorail station to the MRC West Campus campus is the Greenbelt station on the Green/Yellow Lines, which is approximately 6.5 miles away. A shuttle to and from this station could be considered; however, given that it is an end line station on a hub and spoke system, this would likely only be a viable connection for employees that currently live within the

Washington, DC core. A review of the distribution of employee residences obtained from the survey reveals relatively low concentrations of employees living within Washington, DC.

The College Park station is one stop south of the Greenbelt Station and is approximately nine miles from the MRC West Campus. It will serve as a larger transit hub with the scheduled completion of the Purple Line in 2022. The Purple Line will provide suburb-to-suburb transit, connecting multiple different Metrorail lines and suburban hubs, including College Park, Bethesda, and Silver Spring. Furthermore, a review of employee residence locations identified the I-270 corridor south of I-370 as having a concentration of existing and potential future consolidated employees. Thus, providing service to the College Park station may provide more intermodal connections that could serve employees living in those area. In addition, the College Park Metrorail station is also served by multiple local and regional bus routes, including MTA 204 which serves the I-270 corridor.

Therefore, FDA could consider a potential shuttle connection to the College Park Metrorail station (Figure 23). Similar to the connection to the Muirkirk MARC station, the shuttle could operate during the AM and PM peak periods with potential on-demand off-peak service. However, unlike the potential Muirkirk Station shuttle, a shuttle service to College Park would take approximately 20 to 25 minutes one way if it was direct to the MRC West Campus. Thus, it would not be possible to schedule the shuttle with the arrival and departure of every Metrorail or Purple Line train. Rather, FDA should develop a fixed schedule in coordination with interested employees to identify fixed times that optimize the arrival of all transit modes at the College Park station.

However, as discussed earlier in this report, providing a longer-distance shuttle service is costly and would typically require a higher on-site population to be sustainable. Therefore, it may be advantageous for FDA to coordinate with other nearby agencies and campuses to provide a shuttle connection to the College Park station. For example, the Bureau of Engraving and Printing is anticipating operating a shuttle to the Greenbelt Metrorail station. FDA could work with this agency to estimate potential ridership given post-COVID work from home trends and coordinate on a shuttle route either from the Greenbelt Station or College Park Station.

Figure 23 shows an option to divert the shuttle route to the proposed BEP site, which would be approximately the same mileage, but with an estimated travel time to the MRC West Campus of 25 to 30 minutes due to the added stop time. The attractiveness of a shuttle service is highly dependent on its efficiency because it represents an additional seat change for the commuter. Therefore, FDA and other coordinating agencies would have to evaluate the impact of adding additional stops to the shuttle route to serve various agencies on travel time.

It should also be noted that FDA operates a commuter shuttle between the College Park station and the White Oak Campus. However, given the location of the two campuses relative to the station, extending the existing shuttle service to the MRC West Campus is likely not a viable option because it would result in an increase in travel time of 20 to 30 minutes when compared to a direct connection to the station.

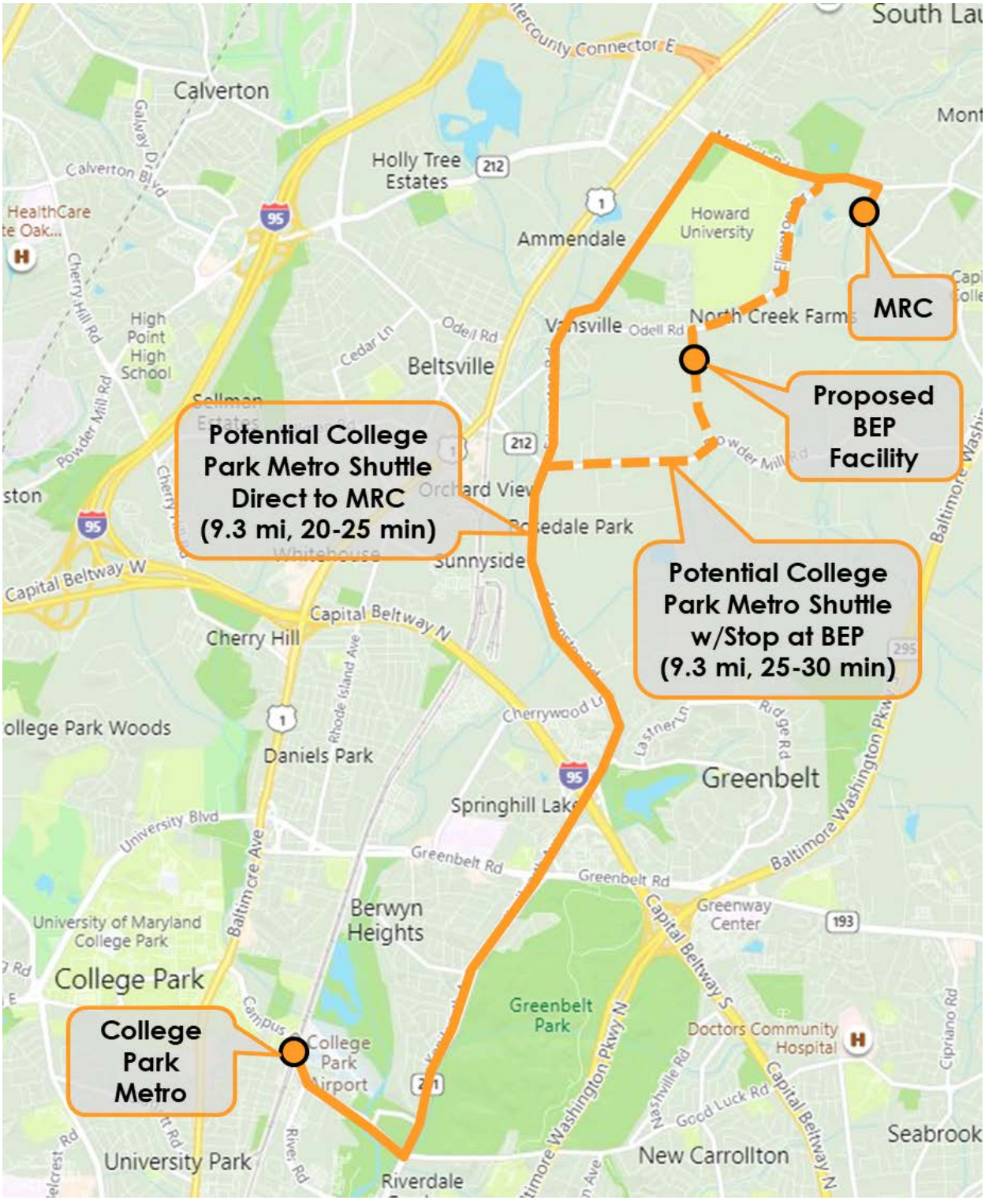


Figure 23: Potential College Park Metrorail Station Shuttle

5.1.2.3 New/Improved Transit Services and Connections

FDA could also consider coordinating with transit agencies, such as RTA, WMATA, and MTA to provide new or improved transit service to the MRC West Campus. RTA could be encouraged to increase the frequency of service between the campus and the Muirkirk MARC station in lieu of FDA providing its own shuttle connection. MTA could also be encouraged to provide a new commuter bus line from the north on the I-95/US 29 corridor and/or the I-270 corridor. MTA Route 204 operates between Frederick and College Park, service the I-270 corridor as well as the White Oak Campus. FDA could consider discussing a potential extension or modification to the route to serve the MRC West Campus.

However, as mentioned earlier, it is likely that the relatively low on-site population would make it difficult to justify new service or an extension of the existing service, particularly if significant portions of the MRC West Campus population continue to telework most of the time. It may be more feasible to provide improved commuter transit services if they are coordinated with other nearby agencies and campuses. Thus, FDA should combine resources with nearby agencies and campuses to advocate for improved transit services for commuters. Alternatively, FDA could consider providing a shuttle connection between the MRC West Campus and the White Oak campus so that MRC West Campus employees could access the various transit options currently available at the White Oak campus (see Section 5.1.3.2).

5.1.2.4 Additional Transit Incentives/Programs

Offering additional incentives and programs to encourage and educate employees regarding transit use should also be considered, including:

- *Transit Incentives*:
  - Continue to assist employees in obtaining the maximum transit subsidy allowed by the Federal Government.
  - Provide new staff and visitors with access to real time transit information, including links to smartphone apps.
  - Assist employees in registering for a guaranteed ride home service.
- *Change Perceptions and Motivate:*
  - Conduct annual or semi-annual commute challenges that offer prizes for documented transit use as permissible by federal law.
  - Conduct transportation fairs on board buses and/or at the Metro station to explain fare payment, transfers, and other aspects of transit to novice users.
  - Establish a transit ambassador program, where existing experienced riders promote transit use and will ride along with novice riders and help them to navigate the system.
- *Public Transit User Group:* Establish a public transit users' group that meets regularly to discuss public transit issues, advocates for improved services, and coordinates a transit ambassador program.

5.1.3 Provide Flexible Non-Transit Options

One of the most significant challenges to large-scale reductions in SOV mode share for the MRC West Campus is the differential between SOV travel time and transit travel time, as well as options. Even if some additional transit connections are provided as discussed in Section 5.1.1, there will be areas of employee populations for which transit would not be a viable or attractive option. For example, employees living along the I-270 corridor could use MD 200 to access the MRC West Campus. Travel along MD 200 to the MRC West Campus would take approximately 25 minutes from the I-270 interchange. Even with the Purple Line and an FDA shuttle connection, it is estimated that total transit travel time would exceed 90 minutes. Therefore, FDA must also consider non-transit TDM strategies for employees that do not have viable or attractive transit options.

5.1.3.1 Carpool/Vanpool

The employee survey revealed that FDA's on and off-campus employment base is primarily distributed along the I-95/U.S. 1/U.S. 29 corridor as well as along I-270. While a significant portion of existing MRC West Campus employees live along or near the MARC Camden line, most of the employees that may be consolidated on the MRC West Campus live in areas where mass transportation would take significantly longer than driving to work. Therefore, carpooling and vanpooling may be a more viable non-SOV commute mode for these employees.

Prior to the COVID-19 pandemic, FDA operated a highly successful carpool and vanpool program on their White Oak Campus. The ETC uses employee zip codes to identify clusters of employees and conduct outreach to provide advanced ride matching and to discuss carpooling/vanpooling benefits. They also assist with ride matching for interested employees and help obtain a vanpool vehicle. However, the population of the White Oak Campus, over 10,000 employees and growing, is significantly higher than the anticipated MRC West Campus population. Furthermore, continued teleworking post-pandemic has made the White Oak Campus' program no longer feasible, and this would make it significantly more challenging to coordinate fixed carpools and vanpools at the MRC West Campus because it is likely that people will be onsite less frequently/more variably. Therefore, a modified approach to carpooling and vanpooling should be considered for the MRC West Campus at such time that more employees are returning to campus more regularly. This modified approach would utilize the principles of active ride matching with the formation of a coordinated system of carpool and vanpool vehicles that utilize park-and-rides along major travel corridors such as I-270, MD 200, I-495, I-95, U.S. 1, and U.S. 29.

Rather than setting specific riders to specific vehicles, these "carpool/vanpool corridors" could be more flexible to meet small changes in an employee's work schedule. For an example, an employee needs to leave work later than normal. That employee could utilize a commute management platform to schedule a ride in a carpool or vanpool vehicle that is departing at a later time. Using park-and-ride facilities along the corridors as the pick-up and drop-off points maximizes the number of carpool and vanpool vehicles that could stop at those locations, thus

making the system more flexible. The ETC could also consider working with ridesharing services such as UberPool and Lyft Line, which allow riders to coordinate with a larger pool of potential commuters, and thus have more options for arrival and departure times.

Figure 24 shows examples of existing park and ride locations that could potentially be used for vanpooling and carpooling and organized into carpool/vanpool corridors. As noted earlier in this report, FDA should reach out to other nearby agencies to coordinate carpool and vanpools to increase the options for riders. Once other agencies are added, other opportunities for carpool and vanpool corridors may be identified. In addition to ride matching, other methods to encourage and facilitate carpooling/vanpooling should be considered:

- *Preferred Parking*:
  - Locate parking spaces for carpool and vanpool vehicles at locations that provide more convenient access to the building than would be provided for single occupant vehicle spaces.
  - Guarantee parking spots for carpool and vanpool vehicles through special permits.
  - Enforce permit use even if not all carpool or vanpool spaces are occupied on a given day.
  - Consider providing additional preferential parking for vanpools since they have a greater impact on trip reduction.
- *Employee Follow-Up*:
  - Follow up with employees to determine if the employees are a good fit and/or if new arrangements should be made. Furthermore, if the ETC takes an interest in the employees finding "good" pool partners, employee matching will most likely be self-promoting and may facilitate other employees taking this option under consideration.
- *Vanpooling*:
  - Encourage employees to participate in vanpooling because it has a greater impact on SOV trip reductions.
  - Provide transit subsidies to vanpool participants to help cover the cost of the van, and/or provide vanpool vehicles to employees directly.
- *Ridesharing:*
  - If employees require greater flexibility in arrival and departure times, the ETC could work with ridesharing companies that provide more flexible vanpool and carpool options, such as UberPool or Lyft Line.
- *Guaranteed Ride Home Service*: A guaranteed ride home service provides free transportation to transit, carpool, and vanpool commuters when an emergency, like an illness, arises. The ETC should facilitate employee registration to the MWCOG Commuter Connections Program, which includes a Guaranteed Ride Home service.
- *Ridesharing*: One of the barriers to carpooling and vanpooling is the need to have access to a car during the day for business. Consider employing one of the below potential strategies to provide access to vehicles during the day for business:
  - Provide a fleet of vehicles that can be used during the day for traveling to meetings and conferences.
  - Work with a ridesharing company, such as Uber or Lyft, and provides a designated pick-up and drop-off lane at the proposed transportation hub, outside of the secure area of campus (See Section 5.1.1.3).

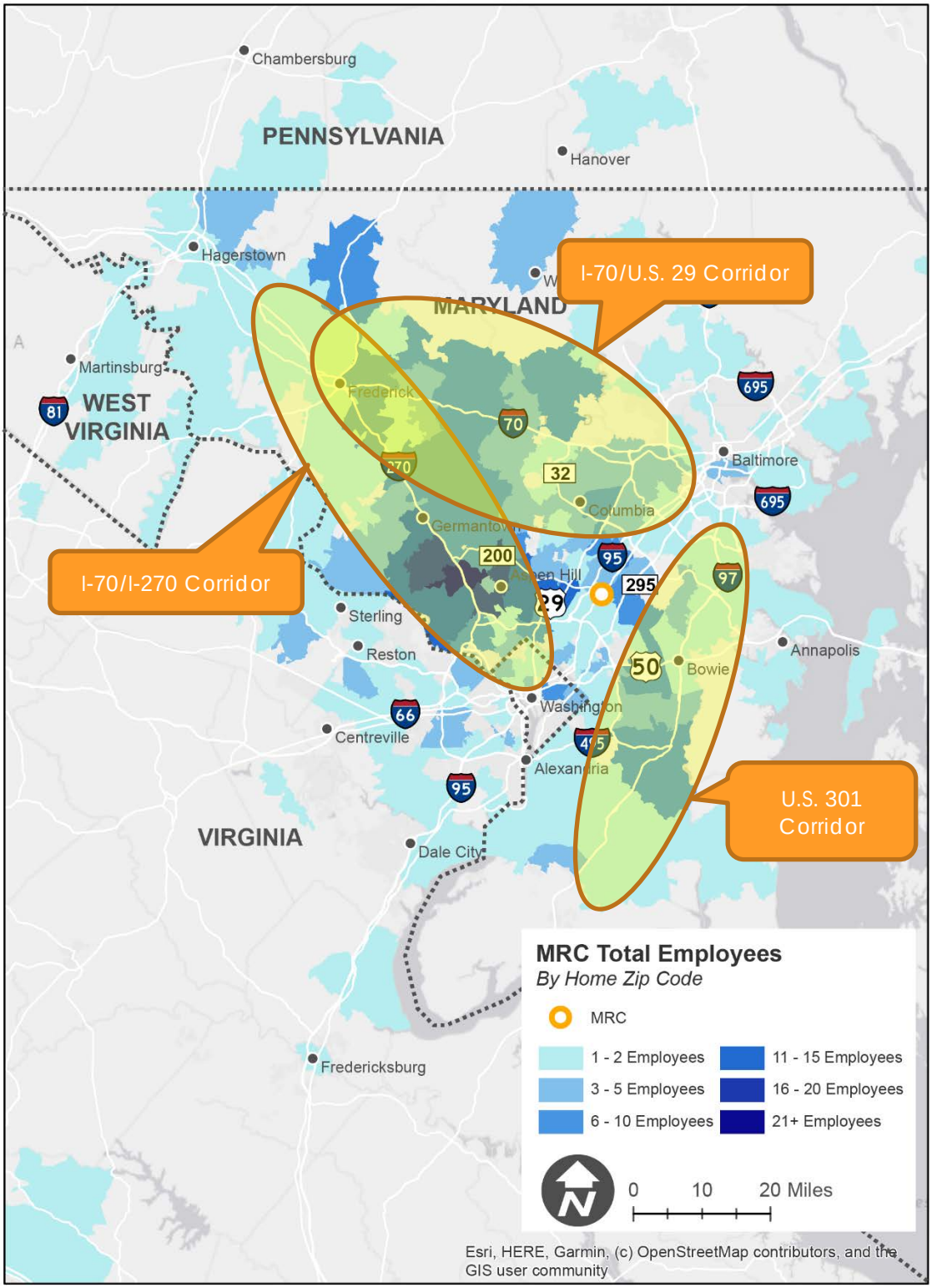


Figure 24: Potential Carpool/Vanpool Corridors

5.1.3.2 Connections to White Oak Campus

The White Oak Campus is served by a variety of local and commuter bus routes and lies along the planned U.S. 29 and MD 650 BRT routes. Furthermore, FDA operates six shuttle routes that connect to Metrorail stations including Silver Spring, Medical Center, and Shady Grove. Therefore, FDA should investigate the feasibility of provided a shuttle connection between the White Oak campus and the MRC West Campus. A shuttle connection between the two campuses could allow employees at the MRC West Campus to access the various transit and shuttle routes currently offered at the White Oak campus (Figure 25). It is estimated that a shuttle ride between the MRC West Campus and White Oak Campus would take 15 to 20 minutes, which may make it a viable option for some employees.

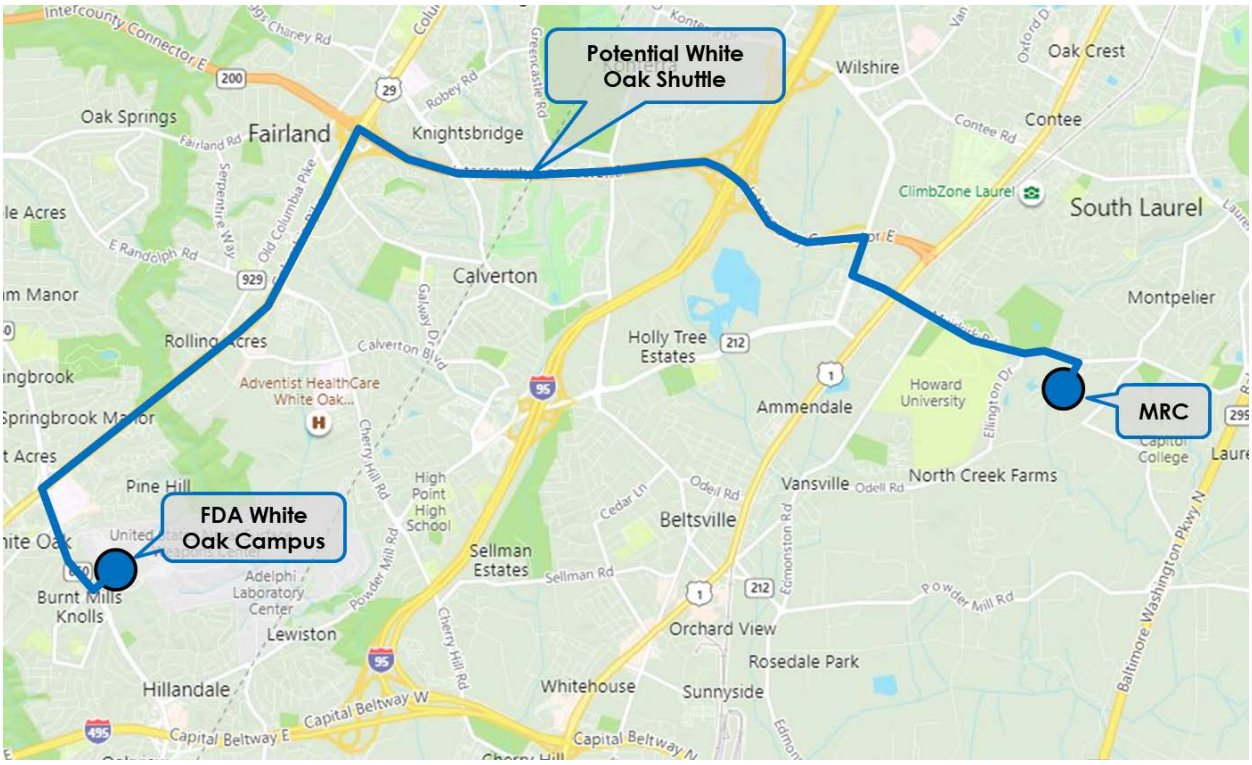


Figure 25: Potential Shuttle Route to White Oak Campus

5.1.3.3 Accommodations for Flexible Mobility

Transportation technology and methods are constantly evolving. In order to stay up to date with current trends, as well as employee expectations, FDA must provide flexible space that can be used for these newer (and future) means of transportation. However, this type of flexibility in transportation is not always easy to accommodate on a secured campus. Whether it is Uber/Lyft or future shared autonomous vehicles, these new technologies introduce challenges to maintaining a secure campus.

Many of the recommendations in this document include the potential for carsharing or TNCs like Uber and Lyft to provide services on the campus. However, increasing this activity as part of the TDM strategies may pose additional challenges for campus security. Currently, taxis and TNC vehicles discharge passengers outside the main security gate. However, as activity increases, adjustments may need to be made to better support these uses. Therefore, FDA should consider developing a strategy to accommodate these types of vehicles today, which will also establish the groundwork for autonomous and shared autonomous vehicles on the Campus in the future.

In addition to security policies, FDA should provide a designated area for these activities that are outside of the secure area. As such, the recommended transportation hub should include a pick-up/drop-off area for TNCs and future autonomous vehicles (see Section 5.1.1.3).

Electric Vehicle Charging Stations

Electric vehicle charging stations should be provided throughout the campus within all major parking areas. Although electric vehicle charging stations do not directly reduce peak period trips, they do support a reduction in emissions, which is a major driver behind the requirements that federal agencies have TMPs. Therefore, it is being discussed in this TMP as a potential strategy to consider. FDA should work with interested employees to determine the number of charging stations that should be provided. Preferential locations for charging stations/parking should be considered.

Autonomous Vehicles

It is anticipated that autonomous vehicles will have a significant impact on travel and commuting patterns and behaviors. While the exact impact is unknown at this time, it is anticipated that there will be a mixture of privately-owned autonomous vehicles and shared autonomous vehicles/shuttles. Both types of vehicles present potential safety and logistics concerns for secure campuses. It may be undesirable to allow empty vehicles entry into the site, or vehicles that have other non-MRC West Campus passengers. Thus, FDA should begin to consider how these types of vehicles could be accommodated. While autonomous vehicle technology is still in development, planners and engineers have speculated on the potential advantages and disadvantages of this technology on commuting, including:

- *Safer Roadways with Higher Capacities*: Autonomous vehicles will be capable of split-second reactions, and through communication with other vehicles, be able to anticipate hazards on the roadway. Not only will this improve safety, it will also allow vehicles to drive much closer together, thus increasing capacity on existing roadways.
- *Reduced Congestion*: Vehicles will have access to real-time traffic information to make decisions about the most efficient travel routes, and when combined with increased roadway capacity, it is expected to reduce peak period congestion.
- *Reduced Parking Demand/Off-Site Parking*: It is anticipated that vehicle sharing, along with the ability for a vehicle to drive to an off-site location by itself, is anticipated to reduce and offset parking demand. This is critical in central business districts where property is often a premium and would eliminate the need for expensive parking facilities. Furthermore, if

vehicles are permitted to operate without an occupant, an employee may send the vehicle home, or to another location, and avoid parking at their place of work altogether.

- *Increased Parking Capacity*: Autonomous vehicles will be capable of parking closer together because they do not require space for passengers to enter the vehicle in the parking space, thus increasing overall parking lot capacity.
- *Reduced Transit Mode Share*: Increased roadway efficiencies, as well as lower costs and improved access to vehicles through vehicle sharing, are anticipated to compete with transit, particularly local bus services.
- *Extension of Peak Periods*: If vehicles are permitted to operate without a person inside, and vehicle sharing is not as widespread as anticipated, it is possible that autonomous vehicles could lead to the extension of peak periods where vehicles are traveling from a place of residence to a destination, and back in one peak period. This may be particularly critical in central business districts where parking is more expensive. Passengers may elect to send their vehicle home or to a parking facility on the outskirts of an urban area to wait for the return trip.

Widespread, measurable impacts on the factors listed above are not likely to be felt for another 10 to 15 years as connected and autonomous vehicles slowly enter the market. Therefore, they cannot be considered as a TDM strategy currently. However, as time progresses, and this document is updated, the role of connected and autonomous vehicles may increase and could begin to impact commute modes. FDA could begin to plan for some of the potential impacts in the design of its facilities, including:

- Designated pick-up and drop-off areas with queue storage for autonomous vehicles. The planned transportation hub could be utilized by ridesharing services in the short-term and by autonomous vehicles in the long-term (see Section 5.1.3.3).
- Design parking structures so that they could be reutilized as office or other space in the future if autonomous vehicles result in a reduction in parking demand.

5.1.4 Reduce Peak Period Travel Demand

Reducing peak period travel demand by encouraging employees to work from home or another off-campus location, delay their arrival to work, or implementing TDM-supportive parking policies, can help to reduce peak period travel demand. Furthermore, telecommuting and flexible work schedules provide employees with the added benefit of reduced or eliminated commute times.

5.1.4.1 Telecommuting

The employee commuter survey results indicate that approximately 22 percent of current MRC West Campus employees telecommuted one or two days a week prior to the COVID-19 pandemic. This is likely due to the nature of the site as a research campus, where employees need access to on-site facilities like laboratories and the animal research areas. However, the survey indicated that almost 60 percent of employees anticipate working from home more often after the COVID-19 pandemic subsides, and current guidance from the Department of Health and Human Services appears to be encouraging agencies to continue to permit working from home. The new policy allows certain employees that are not required to be onsite to work from

home for up to 64 hours per pay period with only 16 hours required onsite. Thus, telecommuting could constitute significant portion of the MRC West Campus campus' non-SOV mode share. This is particularly true in Phase 3 where a significant portion of the employees consolidated on the campus will not require laboratory access.

However, it should be noted that a higher percentage of employees teleworking would likely work against the viability of other programs such as carpooling/vanpooling, and transit. For example, the FDA White Oak campus' carpooling and vanpooling program was one of the most successful of any federal agency in the DC area prior to the pandemic. However, post-pandemic, carpooling and vanpooling have no longer been viable. More variability and less frequency in commute trips to the MRC West Campus on any given weekday may make it harder to justify more costly transit, pedestrian and bicycle connections discussed in this report. Commuting trends and policies should continue to be monitored to adjust strategies according to employee needs.

The ETC should continue to evaluate if any existing or potential new (consolidated) employee positions can be successfully conducted from home or other off-campus location one or more days per week and provide eligible employees with laptops or other mobile workstations. This would include working with internal department heads to develop criteria and guidance to help determine which various job functions are well-suited for telecommuting.

Furthermore, according to the surveys, telecommuting typically occurs on Mondays and Fridays. To reduce peak parking demand, telecommuting should be encouraged during peak commuting days, which are typically Tuesday through Thursday. With a parking ratio of 1:2, FDA will need to carefully plan when staff come into work on the campus so as not to create congestion and parking issues by encouraging staff to come in on Mondays or Fridays.

Encouraging telecommuting on peak commuting days can be done by offering additional incentives, such as a guaranteed parking space for use on days that the employee must be on-campus, or rewards, such as discounts at the on-site cafeteria or specific reserved times at the fitness center. If designated parking spaces are provided, they should be coordinated with all telecommuting employees so that they can be shared. Furthermore, they should be signed to allow employees that have a later arrival (i.e. after 9:00 AM) to park in unoccupied spaces.

Another method could be to utilize a reservation system that either reserves a parking space or a workspace within the facility. Many firms that have downsized office space due to the anticipation of a portion of its workforce telecommuting on a regular basis have developed systems that allow employees to see the availability of workspaces and reserve a workspace when coming to work in person. This type of system allows an employee, or a group of employees, to make better decisions about when to schedule work in the office. FDA could consider utilizing a reservation system to ensure that employees spread out more efficiently over the week.

5.1.4.2 Flexible and Alternative Work Schedule

FDA should consider enhancing existing policies that allow employees to arrive off-peak. For example, a common strategy is to establish core working hours, typically 10:00 AM – 3:00 PM, in which all employees are expected to be working. This would allow employees greater flexibility in selecting a commute time. For example, one employee could work from 7:00 AM – 3:00 PM while another could work 10:00 AM – 6:00 PM.

However, the biggest hurdle to a successful flexible work schedule is the ability to find parking. It may be difficult for employees arriving later in the morning to find parking, which could discourage off-peak commuting. Therefore, as part of the flexible work schedule policy, incentivizing off-peak commuting by providing guaranteed parking for those employees who register and commit to arriving after 9:00 AM should be considered. These parking spaces could overlap with those provided for teleworking employees.

In addition to a flexible work schedule, FDA should consider an alternative work schedule (i.e. four ten-hour days) that encourages employees to take their day off during peak commuting days, which are typically Tuesday, Wednesday, and Thursday. Similar to the recommendations for teleworking, incentives, such as a designated, preferential parking space for use on days that the employee must be on-campus, should be considered. Preferential parking for alternative work schedule employees could be coordinated with telecommuting employees so that one reserved parking space could be used by multiple employees with off-set on-campus workdays. Spaces that are not utilized by 9:00 AM could be made available to general employees.

5.1.4.3 Parking Policies

Parking policies are often the best way to influence mode choice because it often leads to an increase in the real and/or perceived cost of drive-alone commuting. Strategies can include implementing or increasing parking fees, providing preferential parking for carpool/vanpool vehicles, or incentivizing employees for not using a parking space.

Based on the site conditions and survey feedback, consideration could be given to the following policies if additional trip reduction support is needed:

- Parking Fees: Future consideration may be given to implementing daily or monthly parking fees. This would require changes to FDA policies that currently do not support parking fees. Furthermore, the potential future implementation of parking fees must be considered carefully, given the location of the MRC West Campus and the limited number of available modes to access the campus. Furthermore, consideration should be given to balancing the need to reduce SOV trips with the impact to employees.

  Parking fees have been proven to have a significant impact on drive-alone commuting. Potential benefits include a reduction in SOV trips to the campus, decreased number of cars parking at the campus, greater operational funding for maintenance of parking facilities, as well as TDM programs, and the potential for assigned, reserved, or prioritized parking spots.

However, parking fees need to be evaluated in the context of available alternative options and employee economic status.

- Parking Cash-Out: Assign a monetary value to each parking space, then employees are offered a per-month benefit to not use their parking space. This could be offered as an additional incentive for transit riders, carpool/vanpool participants, and walkers/bikers, and could be funded through the parking fees.

  While current policies do not permit an additional cash benefit for federal employees, a parking cash-out could be considered in the future if policies change. Parking cash-out programs have been proven successful in the private sector, particularly in California, where a state-wide program was implemented that requires employers to offer the incentive. While there are no documented examples of parking cash-out at a federal level, it has been implemented at municipal governments, including the City of Los Angeles. Furthermore, the Washington, DC Council approved the Transportation Benefits Equity Amendment Act of 2019 in April 2020 that allows employees to take a cash value for free parking spaces offered by their employer.

- As an alternative to a parking cash-out, consider offering a "three for free" program, when permissible by federal law, whereby parkers are offered incentives for a three-month period in return for giving up their parking. Incentives could include a free transit pass, subsidy for commuting equipment (i.e. bikes, scooters, shoes, bicycle safety equipment, etc.), gym membership, wellness classes, etc., for the three-month period. However, it should be noted that FDA already provides the maximum allowable transit benefit to employees. Thus, policies would need to be revised in order to permit this strategy.

However, given the challenges of the location, other incentivizing strategies should be considered before implementing parking fees.

5.1.5 Enhance Connections to the Community

One of the most substantial ways to increase non-SOV commute mode share is to encourage employees to live close to where they work and/or live along transit lines that serve the MRC West Campus. The results of the survey indicate that a substantial portion of existing MRC West Campus employees live along the I-95 corridor. However, many of the employees that could be consolidated to the MRC West Campus live further away, on the I-270 corridor, where transit is not an option that is reasonably comparable to driving alone. While FDA cannot promote specific locations to live, they can work with other agencies to provide enhanced connections to the nearby communities that would make living closer to work more attractive, as well as enhancing non-SOV connections between the MRC West Campus and these areas.

While the MRC West Campus itself is located in a relatively low-density, pastoral-like area, it is only a few miles from higher density residential areas including the new Brickyard development to the west, adjacent to the Muirkirk station, the proposed Konterra development, also to the west, the Crestleigh and South Ridge apartment and townhome neighborhoods to the east, and the residential areas of Laurel to the north. Enhancing pedestrian, bicycle, and transit connections to and from these areas could encourage employees to live near the MRC West

Campus and also provide a potential added benefit for the community by better linking the MRC West Campus with nearby retail and dining options.

5.1.5.1 Internal/External Pedestrian/Bicycle Circulation

There are currently no continuous sidewalks or bicycle facilities connecting the MRC West Campus with the adjacent community. Therefore, it is recommended that FDA work with Prince George's County to provide these facilities along Muirkirk Road to connect to the existing facilities to the east and west of the campus. Furthermore, consideration should be given to constructing a minimum 10-foot-wide multi-use path, rather on-street bicycle lanes. Shoulders along some sections of Muirkirk Road a relatively narrow and there are no opportunities for on-street bicycle lanes where Muirkirk Road widens to two lanes in each direction east and west of the campus. A multi-use path would also provide a separate bicycle facility that may be more comfortable for average riders than a shoulder bike lane.

It is recommended that this facility extend along Muirkirk Road between MD 197 and the ICC trail on Konterra Drive (Figure 26). This would provide access to nearby residential areas, the Muirkirk MARC station, the Brickyard and future Konterra development, and the existing on-street bike lanes on Cedarhurst Drive. Furthermore, FDA should advocate for the completion of the ICC trail which, when completed, would run the full length of the ICC and could be a potential bicycle commuter route for employees that live west of I-95. A multi-use path would also provide additional community benefits by connecting residential areas, other employers, retail, transit, parks, and schools.

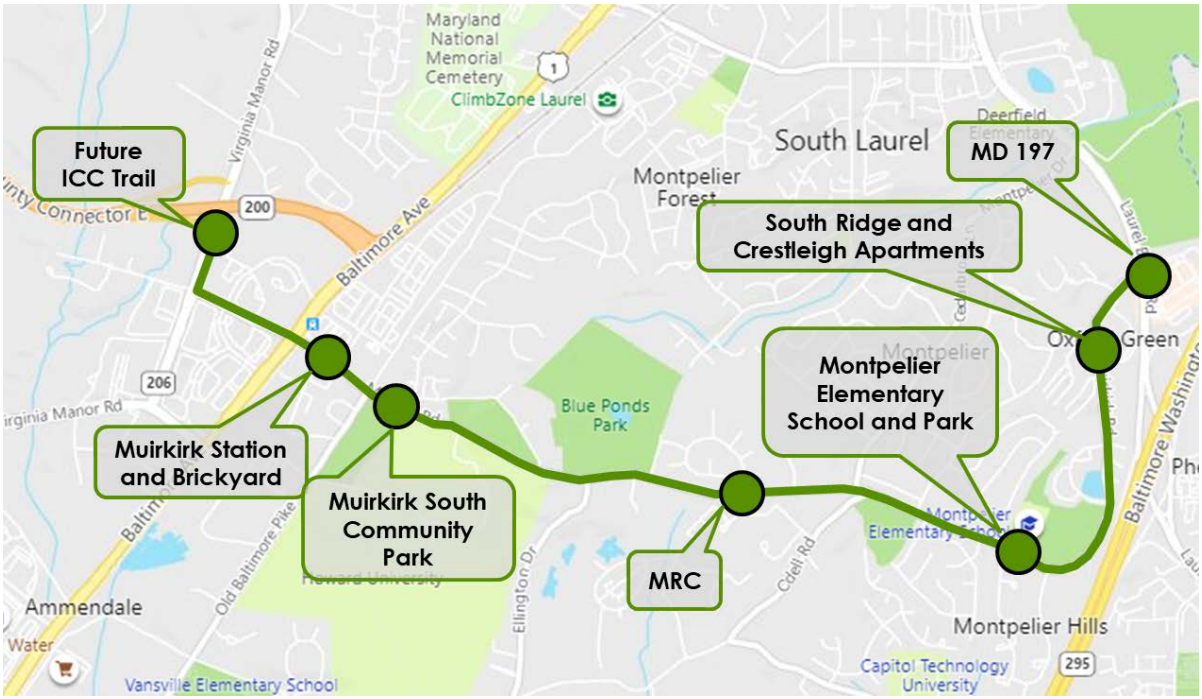


Figure 26: Potential Multi-Use Trail with Points of Interest for Future Bikeshare/E-Scooter

If a multi-use path or other pedestrian and bicycle facility is provided, consideration should also be given to the following:

- Provide shower and locker facilities on campus that can be accessed by all employees.
- Provide sheltered bicycle racks near building entrances. Sheltered bicycle racks should also include tool and pump stations to allow employees to maintain their bicycles and/or electric bike charging capability. It should be noted that the Master Plan shows areas for bicycle parking near the main entrance (Building 2A) as well as at the entrance for Buildings 3A and 3B.
- Design the site to be pedestrian and bicycle friendly by:
    - Provide bicycle and pedestrian connections to Muirkirk Road.
    - Provide bicycle and pedestrian connections between all buildings and parking areas.
    - Ensure that all security entrances have pedestrian and bicycle access.
- Coordinate with Prince George's County to establish a bikeshare or scooter system along the proposed multi-use path and within the surrounding community with stations that include the MRC West Campus transportation hub, the Muirkirk MARC station, the Brickyard, Konterra (future), and other nearby destinations.
- Establish a bicycle and pedestrian commuter group to provide support, advice, and advocacy for commuters.
- Consider coordinating with other agencies and campuses near the MRC West Campus to advocate for improved pedestrian and bicycle connections throughout the area.
- Ensure that all new or improved infrastructure on and off-site are designed to meet ADA accessibility standards that are in place at the time of design.

5.1.5.2 Enhance Transit

Section 5.1.2 provides several recommendations for enhanced connections to transit through FDA shuttle or new or improved RTA, WMATA, or MTA services. One of the most significant roadblocks to enhancing public transit connections directly to the site is the relatively low on-site population, as well as the dispersed nature of employee residences. It is recommended that an area-wide TMP strategy be considered, particularly as it relates to transit, in order to capitalize on the combined commuter ridership from the various agencies and campuses around the MRC West Campus. This could make it easier for a transit agency to justify the expense of providing new or modified transit service to the area.

However, another approach would be to work with the various transit agencies to assess if improved transit services could be provided to the MRC West Campus in combination with improvements to serve the nearby communities. For example, a more frequent operation of RTA Route 302, or an extension of WMATA Route 89/89M to the area near the MRC West Campus could enhance transit for employees at the MRC West Campus as well as nearby residents.

5.2 ROLES AND RESPONSIBILITIES

Implementing a TMP on the MRC West Campus will require coordination between FDA, GSA, and state and local agencies, including SHA, MWCOG, NCPC, NPS, WMATA, MTA, RTA, and Prince George's County. The following lists recommended roles and responsibilities for each agency.

FDA and GSA

- Structure policies that affect mode choice, such as parking, teleworking, and flexible and alternative work schedules.
- Establish ETC to implement and manage the TDM program.
- Establish robust carpool and vanpool programs.
- Coordinate with local agencies to advocate for improved transit services and pedestrian and bicycle facilities.
- Provide on-campus enhancements that support the TDM recommendations made above.
- Begin to establish policies for accommodating TNCs and future autonomous vehicles more efficiently and with easier access from all agencies on the Campus.
- Establish a shuttle service to the Muirkirk MARC station, College Park Metrorail station, the White Oak Campus transportation center, and/or other FDA office locations. Consider working with the nearby agencies and campuses to combine resources to enhance shuttle connections, new or improved transit services, carpool and vanpool programs, etc.
- Work with SHA and Prince George's County to address pedestrian and bicycle connectivity on and off the Campus.

NCPC and MWCOG

- Provide TDM strategy guidance.
- Maintain the Commuter Connections program with Guaranteed Ride Home services.

SHA/ Prince George's County

- Work with FDA and GSA to identify opportunities for improved pedestrian and bicycle facilities.

WMATA/MTA/RTA

- Work with FDA, GSA, and other nearby campuses and agencies to enhance transit connections in the area.

6.0 IMPLEMENTATION

While the first phase of growth at the MRC West Campus is approximately five years out, many of the proposed strategies recommended in this TMP will require design considerations, planning, coordination with employees, and acquisition of funding, while others could be implemented relatively efficiently with the existing employees and expanded to consolidated/new employees. The below implementation strategy provides a roadmap for FDA to ensure that resources and facilities are available as soon as they are needed, and is divided into four phases:

- ***Phase 1 (within 5 years)***: Reduce the number of available employee parking spaces and delineate visitor parking. Create a commuter website for the TMP and assign a contact person that can coordinate with MRC West Campus employees. Review TMPs and commuting policies of other nearby agencies to identify opportunities to coordinate TDM efforts, including enhanced access to transit and shuttle connections. Begin to implement strategies that are appropriate for the onsite population and identify and secure funding for recommendations. Ensure that the design of onsite facilities, such as the transit center, incorporate specifications for transit vehicles, TNC's, etc.

- ***After Phase 2 Consolidation (within 5 – 10 years)*:** Continue planning, funding, and design process for larger-scale recommendations. Incorporate consolidated/new employees into the strategies as they move into new on-campus facilities. This phase of the TMP implementation is predicated on the timeline of construction Phase 2 of the Master Plan. If the completion of Phase 2 is delayed, the start of this implementation phase would also be delayed. Furthermore, the ability to achieve the 1:2 parking ratio is predicated on the staff that is consolidated to the campus in this phase. A higher proportion of laboratory staff, which typically work on campus more often due to the need to access lab equipment, will make it harder to achieve this goal.

- ***Phase 3 Full Site Population (within 10 – 20 years):*** All recommended TDM strategies should be implemented and available to all employees, support staff, and contractors. Evaluate the need for additional measures that may be needed to maintain or exceed the 50% SOV requirement given the large, anticipated increase in population in this phase. This phase of the TMP implementation is predicated on the timeline of construction for the full build-out of the master plan. Furthermore, the ability to achieve a 1:2 parking ratio is predicated on the availability of high-quality transit within proximity of the MRC West Campus.

- ***Maintenance Phase (beyond 20 years*):** Continue to monitor TMP needs. Track new technology and incorporate new strategies as needed.

As noted earlier in this document, the MRC West Campus currently has a relatively low population with an SOV mode share of 97%. Although the NCPC parking maximum requirement

of one space per two employees would require an SOV mode share of 50%, it may not be possible to meet these goals immediately upon initiation of the TMP, outside of a structured teleworking policy and physical parking supply reductions. Many of the recommended strategies would require a larger employee population to support. Table 9 shows the implementation stages and how each category of recommendation would help to get the MRC West Campus to the ultimate 50% SOV mode share goal.

Furthermore, a higher percentage of employees teleworking would likely work against the viability of other programs such as carpooling/vanpooling and transit. More variability and less frequency in commute trips to the MRC West Campus on any given weekday may make it harder to justify more costly transit, pedestrian and bicycle connections discussed in this report. Commuting trends and policies should continue to be monitored to adjust strategies according to employee needs.

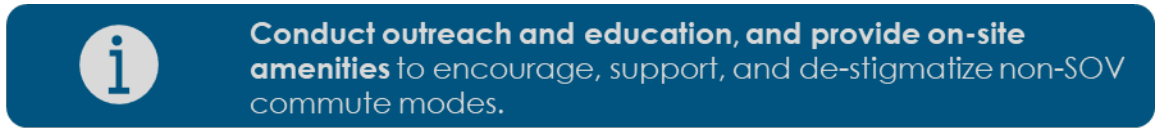
It should also be noted that it may be possible to achieve greater mode share reductions on certain strategies, while others may be under the recommended goals. Some strategies are complimentary while others may not. Employee commuting needs may also change over time which could make some strategies more effective than others. Therefore, the recommended percent mode share goals shown in Table 9 should be considered as a guide only.

The implementation matrices that follow Table 9 list the implementation steps for each strategy by phase. The percentages listed with each strategy should be considered as mode share goals to expand beyond what is currently being done to meet the ultimate 50% SOV requirement. Strategies without a percentage goal are considered supportive to other TDM strategies, and thus do not have a separate mode share goal. However, FDA has the flexibility achieve the overall goal utilizing any combination of strategies.

Table 9: Phasing Strategy

Phase	Timeframe	Mode Share (Parking Ratio)	
Phase 1	**Within 5 Years**	**Starting SOV Mode Share (Parking Ratio):**	**97% (1:0.94)**
		Reduce the number of available employee parking spaces	0%
		Delineate 35 visitor parking spaces	0%
		Provide commute website and contact person for MRC West Campus staff	0%
		Review TMPs of other nearby agencies to identify opportunities to coordinate	0%
		Telework/Flex Days:	25%
		Resulting SOV Mode Share (Parking Ratio):	**75% (1:1.33)**
Phase 2 (2030) **168 Additional Employees**	**5 – 10 Years** (subject to change based on construction timeline)	**Starting SOV Mode Share:**	**75% (1:1.33)**
		Carpool/Vanpool:	1%
		Accommodate Flexible Mobility:	1%
		Telework/Flex Days:	44%
		Parking Policies:	2%
		Ped/Bike:	1%
		Local Transit:	1%
		Resulting SOV Mode Share:	**50% (1:2)**
Phase 3 (2040) **Full Site Population**	**10 – 20 Years** (subject to change based on construction timeline and availability of high-quality transit)	**Starting SOV Mode Share:**	**50% (1:2)**
		Connection to Muirkirk Station:	2%
		Connection to Metrorail:	2%
		New/Improved Transit:	1%
		Carpool/Vanpool:	3%
		Connect to White Oak Campus:	1%
		Accommodate Flexible Mobility:	1%
		Telework/Flex Days:	35%
		Parking Policies:	1%
		Ped/Bike Connections:	2%
		Local Transit:	2%
		Resulting SOV Mode Share:	**≤50% (≤1:2)**
Maintenance Phase	**>20 Years**	**Target Mode Share:**	**<50% (<1:2)**

Implementation

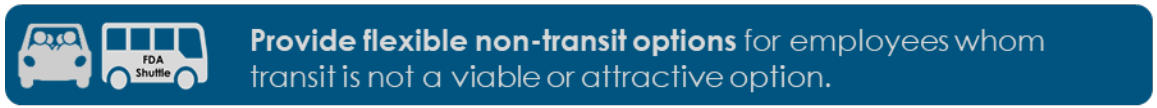


Strategy	Phase 1 (within 5 Years)	Phase 2 Consolidation (within 5 – 10 Years)	Phase 3 Full Site Population (within 10 – 20 Years)	Maintenance Phase (Beyond 20 Years)
Employee Transportation Coordinator (ETC)	• Develop commute website and assign contact person to coordinate with MRC West Campus employees regarding their commutes. • Coordinate with other nearby agencies or campuses to evaluate the feasibility of combining TDM strategy efforts. • Begin development of a monitoring and evaluation program. • Compile and distribute educational information regarding available commute modes and develop package for new employees. • Begin implementing responsibilities outlined in Section 5.1.1.1.	• Continue coordination with other nearby agencies and campuses to manage TDM strategy implementation. • Provide ETC on site at the MRC West Campus. • Begin monitoring and evaluation, including the biennial reports required by NCPC	• Continue all ETC responsibilities listed in Section 5.1.1.1. • Update TMP to account for new transportation and commute technology and trends.	• Evaluate need for additional staff. • Continue to re-evaluate TDM strategies and implementation.
Commute Management Platform	• Explore the feasibility of utilizing a commute management platform like RideAmigos or Luum.	• Implement commute management platform like RideAmigos or LUUM.	• Re-evaluate commute management platform.	• Continue re-evaluation of commute management platform options.
On-Site Amenities	• Ensure that on-site amenities remain components of the site during the implementation of the Master Plan. • Begin initial planning and design for the transportation hub. • Evaluate the demand for providing fleet vehicles, carsharing, or a transportation network company (TNC) account for employees that need to travel to work during the day.	• If warranted, provide fleet vehicles, carsharing, or a TNC account for employees that need to travel for work during the day. • Construct visitor center/transportation hub.	• Consider new amenities as new transportation technology becomes available. • Develop a policy for accommodating autonomous vehicles onsite.	• Consider new amenities as new transportation technology becomes available.

Implementation

Strategy	Phase 1 (within 5 Years)	Phase 2 Consolidation (within 5 – 10 Years)	Phase 3 Full Site Population (within 10 – 20 Years)	Maintenance Phase (Beyond 20 Years)
Connect to Muirkirk Station (1% – 3%)	• Assess the feasibility of providing a shuttle connection to the Muirkirk MARC station.	• Continue to assess the feasibility of providing a shuttle connection to the Muirkirk MARC station.	• Begin peak period shuttle service to and from the Muirkirk station if warranted.	• Re-evaluate need for shuttle service a new travel trends and technology become available.
Connect to Metrorail (1% - 3%)	• Assess the feasibility of providing a shuttle connection to the College Park Metrorail station, and/or Greenbelt Metrorail station. • Consider coordinating with other nearby agencies and campuses to provide this shuttle service.	• Continue to assess the feasibility of providing a shuttle connection to the College Park Metrorail station, and/or Greenbelt Metrorail station. • Consider coordinating with other nearby agencies and campuses to provide this shuttle service.	• If potential ridership demand warrants, begin peak period shuttle service to and from the College Park Metrorail station and/or Greenbelt Metrorail station.	• Re-evaluate need for shuttle service a new travel trends and technology become available.
New/ Improved Transit Services (1% - 3%)	• Coordinate with Washington Metropolitan Area Transit Authority (WMATA), Maryland Transit Administration (MTA), and Regional Transportation Agency (RTA) to identify the conditions required to provide new or improved transit service to the MRC West Campus.	• Construct visitor center/transportation hub. • Continue coordination with WMATA, MTA, and RTA to evaluate the feasibility of new or improved transit service to the MRC West Campus.	• Coordinate with WMATA, MTA, and RTA to implement new or improved transit service to the MRC West Campus.	• Continue coordination with agencies to maximize impact of new services, technologies, and commuting trends.
Additional Transit Incentives/ Programs	• Continue to assist employees in registering for a guaranteed ride home service. • Continue to assist employees with obtaining the highest allowable transit subsidies.	• In new transit connections are provided, conduct on-board informational campaigns for MRC West Campus employees. • Establish public transit user group and implement transit ambassador program.	• Continue strategies as needed.	• Continue strategies as needed.

Implementation



Strategy	Phase 1 (within 5 Years)	Phase 2 Consolidation (within 5 – 10 Years)	Phase 3 Full Site Population (within 10 – 20 Years)	Maintenance Phase (Beyond 20 Years)
Carpool/ Vanpool (3% - 5%)	• Aggregate employee zip codes and identify potential carpool/vanpool corridors. • Assist employees in registering for a guaranteed ride home service.	• Begin carpool and vanpool ride matching for existing employees at the MRC West Campus, if carpooling/vanpooling returns as a viable commute mode based on teleworking trends. • Hold meetings of the carpoolers/vanpoolers and help them identify meeting spots and resolve any potential issues. • Implement a method for access to transportation during the day. • Provide electric vehicle charging stations.	• Implement carpool and vanpool corridors along I-270 and I-95/U.S. 29. • Continue to monitor carpool and vanpool program and adjust program as needed. • Evaluate need for additional electric vehicle charging stations.	• Monitor carpool and vanpool program and adjust based on transportation trends and technology.
Connect to White Oak Campus (1% - 2%)	• Begin exploring the need for and feasibility of a shuttle connection between the White Oak Campus and the MRC West Campus.	• If warranted by potential ridership, begin shuttle service between the White Oak Campus, or other FDA office locations, and the MRC West Campus.	• If warranted, begin shuttle service between the White Oak Campus, or other FDA office location, and the MRC West Campus.	• Re-evaluate need for shuttle service a new travel trends and technology become available.
Accomoda-tions for Flexible Mobility (0% - 1%)	• Work with FDA leadership to develop a policy for accommodating TNCs, carsharing or fleet vehicles, and autonomous vehicles.	• Provide electric vehicle charging stations.	• Finalize plan for accommodating autonomous vehicles onsite.	• Continue to respond to changing mobility needs and technology.

Implementation

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Strategy	Phase 1 (within 5 Years)	Phase 2 Consolidation (within 5 – 10 Years)	Phase 3 Full Site Population (within 10 – 20 Years)	Maintenance Phase (Beyond 20 Years)
Tele-commuting/ Flexible and Alternative Work Schedules (20% - 40%)	• Work with managers to identify jobs/employees that would be good candidates for telecommuting. • Establish a reservation system that will allow employees to see how many people are planned to be on-site on a particular day and to "reserve" a workstation and/or parking space. • Work with FDA leadership to establish a core set of hours that provides employees with the flexibility to arrive off-peak and work with managers to identify opportunities for compressed days off. • Develop an incentive plan to encourage telecommuting and utilization of their compressed day off on peak commuting days.	• Extend telecommuting and flexible work schedule policies to the consolidated employees. • Implement and enforce carpool/vanpool parking spaces.	• Extend telecommuting and flexible work schedule policies to the consolidated employees.	• Evaluate additional incentives for demand balancing of teleworking, flexible work schedule, and alternative work schedule employees, as needed.
Parking Policies (3% - 5%)	• Begin to develop revised parking policies to include designated and enforced carpool/vanpool parking spaces.	• Determine the feasibility of adjusting regulations to permit a trial run of a "three for free" program whereby parkers are offered a free transit pass for three months in return for giving up their parking. • Monitor preferential parking and provide additional parking spaces as needed. • Evaluate the need for other parking strategies discussed in Section 5.1.4.3.	• Monitor preferential parking and provide additional parking spaces as needed. • Evaluate the impact of autonomous vehicles on parking. Consider redesigning parking facilities to condense parking for autonomous vehicles and alternative uses for parking structures. • If feasible, fully implement "three for free" program whereby parkers are offered a free transit pass for three months in return for giving up their parking.	• Evaluate other parking policies, as needed to help incentivize other modes of transportation.

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Strategy	Phase 1 (within 5 Years)	Phase 2 Consolidation (within 5 – 10 Years)	Phase 3 Full Site Population (within 10 – 20 Years)	Maintenance Phase (Beyond 20 Years)
Ped/Bike Connections (1% - 2%)	• Ensure that future site improvements include enhancements for pedestrians and bicyclists, including bike storage. • Ensure that future building designs include shower and locker facilities. • Begin discussions with Prince George's County and Maryland Department of Transportation State Highway Administration (SHA) regarding the planning and design of pedestrian and bicycle facilities along Muirkirk Road. • Encourage employees to use ridesharing apps for trips during the day. • Designate a TNC vehicle pick-up/drop-off area.	• Complete internal enhancements for pedestrians and bicyclists, including installation of bike storage. • Coordinate with Prince George's County and SHA to complete the design of the recommended pedestrian and bicycle facilities on Muirkirk Road. • Work with other nearby agencies and campuses to advocate for improved pedestrian and bicycle infrastructure throughout the area. • Organize a pedestrian and bicycle commuter group.	• Coordinate with Prince George's County and SHA to complete the construction of the recommended pedestrian and bicycle facilities on Muirkirk Road. • Work with the County and SHA to construct other planned facilities in the area, including those along Odell Road. • Coordinate with Prince George's County to provide bike or scooter sharing for employees to utilize during the day and to commute to and from the Muirkirk station. Consider coordinating with a deployment of other stations throughout the area. • Begin a pedestrian and bicycle user group on campus to discuss issues with walking and biking, form walk and bike commute groups, and help FDA advocate for off-campus improvements.	• Continue to monitor pedestrian and bicycle needs.
Enhance Local Transit (0% - 1%)	• Coordinate with Washington Metropolitan Area Transit Authority (WMATA), Maryland Transit Administration (MTA), and Regional Transportation Agency (RTA) to identify the conditions required to provide new or improved transit service to the MRC West Campus.	• Work with RTA, MTA, and WMATA to determine if new or modified transit services to the MRC West Campus are feasible.	• Continue to Work with RTA, MTA, and WMATA to determine if new or modified transit services to the MRC West Campus are feasible.	• Continue to Work with RTA, MTA, and WMATA to determine if new or modified transit services to the MRC West Campus are feasible.

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7.0 MONITORING AND EVALUATION

This TMP is a flexible document that is intended to be shaped and reshaped as commuting patterns and needs change. Each of the TDM strategies must be evaluated and changed as the program grows to ensure that the needs of the employees are being met and that the overall SOV reduction goals are achieved. NCPC has determined that regular reporting is a critical component to the overall success of a TDM program, and thus requires biennial reporting for all facilities with master plans or for projects that have transportation implication, including those that seek a parking ratio deviation. It should be noted that the MRC West Campus is not currently in compliance with the required parking ratio.

Changes to infrastructure, transit services, and travel trends can impact the effectiveness of the proposed strategies. Thus, it is important to begin monitoring upon acceptance of the Master Plan and provide updates to the TMP as needed. During each evaluation period, the following steps must be performed:

The biennial report will update NCPC with the progress of the TMP, as well as allow the agency and the ETC to reevaluate their own progress to the transportation goals. Changes to infrastructure, transit services, and travel trends can impact the effectiveness of the proposed strategies. Thus, it is important to begin monitoring upon acceptance of the Master Plan and provide updates to the TMP as needed. The biennial report should be based on data that FDA should already be collecting and monitoring as part of the TMP. During each evaluation period, the following steps must be performed:

- Determine the extent to which each program has achieved its objective.
- Determine if the site is compliant with NCPC requirements, such as parking maximums.
- Plan the degree of consistency of program implementation.
- Detail the relationship of different strategies to the effectiveness of the overall program.

The biennial report should answer the following questions defined by NCPC in the Transportation Element Addendum:

- Have you met your agency TMP milestones? Which milestones are currently in progress?
- Have any projects been implemented since master plan approval that influence parking? Please include any additional information from the Commission on deviations or conditions.
- Is there new infrastructure near the campus that influences transportation?
- What is your current number of employees?
- What is your current parking ratio?
- Provide mode choice information for your employees' commuting patterns.

It is recommended that FDA consider the following sources of data in order to inform the development of the biennial report.

- Participate in FDA's annual federal employee transportation mode surveys or perform periodic internal surveys of employees. An example survey is contained in Appendix A.

- Perform traffic counts at all the access points. Consider installing automatic vehicle counters at the two proposed entrances.
- Conduct parking utilization counts for all campus parking facilities, including specific utilization counts for visitor, electric vehicle, carpool, vanpool, and other special/reserved parking spaces.
- Re-evaluate parking needs to assess the impact of any new buildings and other major changes to the Campus.
- Provide program participation documentation (e.g. number of employees receiving transit subsidies, number of registered carpools and vanpools van, preferential parking registration, education and outreach information, including number of transportation fairs, meeting minutes from pedestrian/bicycle user group and transit user group, etc.).

In addition to utilizing this information to complete the required biennial reporting process, FDA should also utilize this data to understand how the TDM strategies are affecting the SOV mode share goals. A biennial review of the performance data will help to identify small changes in mode share as additional measures are implemented. For example, FDA could monitor how SOV mode share changes once a shuttle is provided to the Muirkirk MARC station. Furthermore, if the MRC West Campus TMP becomes a component of a larger, area-wide TMP, then each agency and campus should be responsible for providing the data to one overall biennial report.

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APPENDIX A:
EXAMPLE ANNUAL EMPLOYEE SURVEY

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FDA Muirkirk Road Complex (MRC) Transportation Survey For Personnel Currently Located at the MRC

The FDA, in cooperation with the GSA, is developing a Transportation Management Plan for the Muirkirk Road Complex (MRC) and we need your help. Please answer the following questions about your pre-COVID work schedule and commute mode, as well as how you anticipate commuting to the campus after the pandemic subsides. The anonymous information you provide will be used to inform important decisions regarding future transportation options at the MRC.

Please take care not to include personally identifiable information or other sensitive information in any narrative answers you provide.

1. Please indicate the category below that best represents your role on the MRC.

    a. FDA employee
    b. GSA employee
    c. Contractor

2. In which building do you work?

    a. Building # ☐ (Please select from the drop-down menu.)

    b. Other location ☐

3. In what zip code is your home located?

    ☐☐☐☐☐

4. Which best describes your work schedule before the COVID-19 pandemic? Include days worked from an alternative duty station and/or days worked from home.

    a. Typically work consistent hours (5 days/40 hours per week)
    b. Irregular schedule – late hours or odd shifts (40 hours per week)
    c. Irregular schedule – late hours or odd shifts (more than 40 hours per week)
    d. Alternate work schedule – 9 days 80 hours (you have a day off every other week)
    e. Alternate work schedule – 8 days 80 hours (you have a day off every week)
    f. Part time

5. Before the COVID-19 pandemic, how often did you work at the MRC?

    a. Every workday
    b. 3 – 4 days per week
    c. 1 – 2 days per week
    d. Once per month
    e. Rarely (less than once per month)

6. Before the COVID-19 pandemic, what were your typical arrival and departure times to/from the MRC when working?

    a. Arrival Time: ☐ (Please select a half-hour interval from the drop-down menu.)

    b. Departure Time: ☐ (Please select a half-hour interval from the drop-down menu.)

7. Prior to the COVID-19 pandemic, what mode of travel did you primarily use to arrive at the MRC?

a. Drive alone
b. Carpool/Slug
c. Registered Vanpool
d. Dropped off by private vehicle, taxi, or car service
e. Bus (Metrobus, MTA Commuter Bus, RTA)
f. Commuter Rail (MARC/VRE)
g. Walk
h. Bike/Scooter
i. Other

8. Approximately how many miles do you travel to the MRC one way?

a. 1 – 10 miles
b. 11 – 20 miles
c. 21 – 30 miles
d. 31 – 40 miles
e. 41 – 50 miles
f. More than 50 miles

9. Approximately how much time, on average, did it take you to commute from your home to the MRC before the COVID-19 pandemic?

a. 1 – 10 minutes
b. 11 – 20 minutes
c. 21 – 30 minutes
d. 31 – 45 minutes
e. 46 – 60 minutes
f. 61 – 90 minutes
g. More than 90 minutes

10. If you carpooled as your primary mode of travel before the COVID-19 pandemic, how many persons were assigned to your carpool, including yourself? (Please answer N/A if you do not carpool.)

11. If you vanpooled as your primary mode of travel before the COVID-19 pandemic, how many persons were assigned to your vanpool, including yourself? (Please answer N/A if you do not vanpool.)

12. In your opinion, which of the following applies to the parking conditions at the MRC?

a. There is not enough parking available.
b. There is adequate parking available.
c. There is more parking than is needed.

13. Did you receive a transit subsidy before the COVID-19 pandemic?

a. Yes
b. No

14. Were you registered with Commuter Connections Guaranteed Ride Home Service or any other commuter assistance program before the COVID-19 pandemic?

a. Yes
b. No

15. If you teleworked from home or an offsite location before the COVID-19 pandemic, how many days per week did you typically telework? (Please select a number between 0.5 and 5 from the drop-down menu.)

16. Please identify the day(s) of the week when you most frequently teleworked before the COVID-19 pandemic. (Please select all that apply.)

    a. Monday
    b. Tuesday
    c. Wednesday
    d. Thursday
    e. Friday

17. Please select the primary reason why you teleworked before the COVID-19 pandemic.

    a. I enjoy working out of my home or other off-campus location.
    b. My commute to the MRC campus is too long and/or too stressful.
    c. Parking is too difficult to find on campus.
    d. I must be close to home to care for a dependent immediately after work.
    e. I am required by my organization to office share/hot desk/hotel/deskshare.
    f. Other

18. If you did not typically telework prior to the COVID-19 pandemic, why?

    a. Distractions at home
    b. IT/AV/telecommunications/network issues
    c. I need/like to interact in person with coworkers.
    d. I need to use resources at the MRC to do my work (e.g., labs, animals, etc.).
    e. Teleworking was not supported by my supervisor and/or the agency.
    f. Other

19. Before the COVID-19 pandemic did you ever walk or bike to work at the MRC?

    a. Yes
    b. No

20. If you answered Yes to Question 19, how often did you walk or bike to work at the MRC?

    a. Every day (year-round)
    b. Every day (seasonally)
    c. 2-4 times per week
    d. Once per week
    e. Once per month
    f. Rarely

21. If you answered Yes to Question 19, were there any issues that you encountered on or off the campus when biking or walking to work? (Please briefly describe)
    a. No.
    b. Yes

22. Do you anticipate that your work schedule/habits will be different after the COVID-19 pandemic subsides from how they were before the COVID-19 pandemic?
    a. No – the COVID-19 pandemic has not affected when or where I work.
    b. No – I will return to my work location on the MRC once it is safe to do so.
    c. Yes – I anticipate that I will work from home full time.

d. Yes – I will return to my work location on the MRC but I expect to work from home more often.

23. Do you anticipate changing how you commute to/from the MRC after the COVID-19 pandemic subsides?

    a. Yes
    b. No

24. If you answered yes to Question 23, what is your anticipated primary commute mode to the MRC after the COVID-19 pandemic subsides?

    a. Drive alone
    b. Carpool/Slug
    c. Registered Vanpool
    d. Dropped off by private vehicle, taxi, or car service
    e. Bus (Metrobus, Commuter Bus, RTA)
    f. Commuter Rail (MARC/VRE)
    g. Walk
    h. Bike/Scooter
    i. Other

25. If you typically drove alone to the MRC before the COVID-19 pandemic, would you be willing to consider any alternative forms of travel after the COVID-19 pandemic subsides?

    a. Yes
    b. No

26. If you answered No to Question 25, why would you be unwilling to consider an alternative form of travel? (Please select your top three reasons)

    a. The cost is too high
    b. I need car during the day for work
    c. I need car during the day for personal use
    d. There are no park-and-ride facilities close to my home
    e. I have an unpredictable schedule
    f. I need car for childcare drop-off/pick-up
    g. I like the comfort/convenience of my own vehicle
    h. I will have continued concerns about social distancing, even after the COVID-19 pandemic subsides.
    i. Transit schedules are inconvenient.
    j. Transit travel time is too long.
    k. There are no transit stops close to my home.
    l. The transit stop is too far from the MRC.
    m. I do not understand how to use the transit system to get to/from the MRC.
    n. Other

27. Are there any improvements to services that would encourage you to commute to the MRC by other modes post-COVID? (Please select all that apply)

    a. More mass transit options from my home that connect to/near the MRC
    b. Frequent express bus/train services to/near the MRC.
    c. Earlier transit service in the morning or later service in the evening to accommodate irregular shifts
    d. Increase the frequency, reliability, safety, and/or comfort of public transit
    e. Additional parking at MARC stations and Park and Rides
    f. Bikeshare or e-scooters to travel between the Muirkirk MARC station and the MRC
    g. Direct transit connection between a Park and Ride near my home and the MRC
    h. Fewer number of seat changes (transfers) to get between my home and the MRC
    i. Shuttle connection between the MRC and the Muirkirk MARC station
    j. Shuttle connection between the MRC and a park-and-ride facility near your home

k. Improved bus stop accommodations at the campus entrance
l. Decrease in transit travel time and cost
m. Assistance with forming a carpool or vanpool
n. Not willing to consider other modes
o. Other

28. Do you have any other comments, questions, or concerns? Please take care not to include personally identifiable information or other sensitive information in the narrative answers you provide below.